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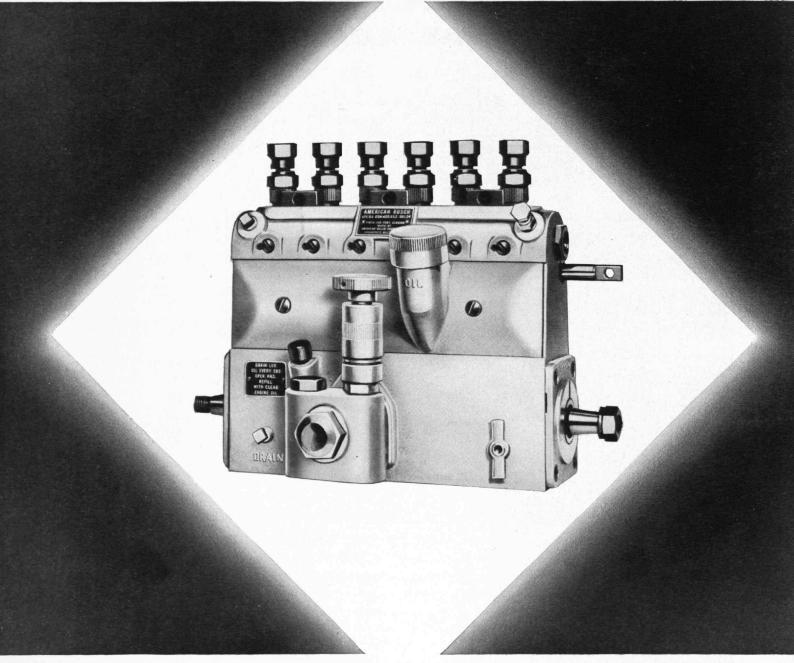
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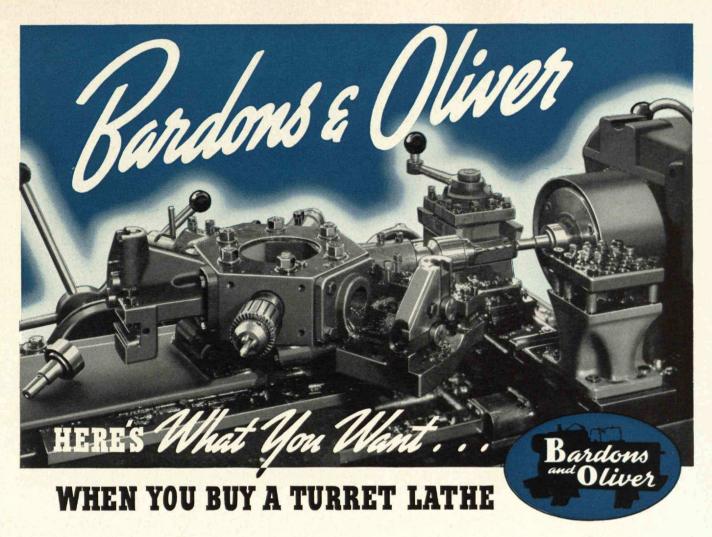


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time we look out the window and see the pennant waving beneath the Stars and Stripes on our flagpole, it seems to say, "Engineers," to us.

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complicated war machinery called for the highest type of engineering skill. Credit for the success of that job, which resulted in our winning the Navy "E", goes largely to Westinghouse engineers.

Never have we been prouder of the fact that ours is "an engineer's company."

> FRANK C. REED, President (CLASS OF 1903)

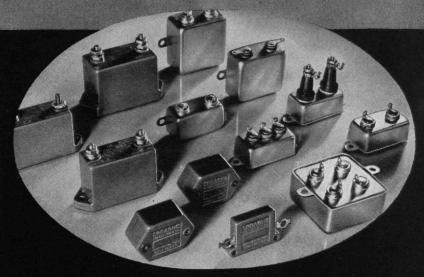
Ross Rathbun, Sales Manager (CLASS OF 1912)

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Manufactured by the Sommer & Adams Co.

The new Cleveland No. 1 Vertical Milling Machine is small, compact, rigid. Designed to meet today's exacting requirements of high speed production, it is capable of handling heavier work, in wider variety, at faster speeds than the ordinary miller of this type. As developed by Sommer & Adams Company engineers it reflects the company's 20-year reputation as creators of special precision machines for the automotive and other high production industries.

One of the largest factors in the recognized efficiency of the machine is the head gears. These provide 3 speeds, the highest possible degree of accuracy, quiet operation, ease in speed changing and long resistance to wear. They are Ohio Gear, precision-cut, heat treated and shaved to insure quietness. They were specified by the company's engineers because of highly satisfactory performance by Ohio Gears in many of the company's special machines.

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EARS

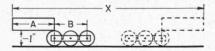
No. 44

Just for Fun!

A CHALLENGE

TO YOUR INGENUITY

THE diagram below indicates schematically a little problem encountered in our shop a short time ago. A member A moves on rollers, without slipping, from the solid line position to that shown dotted. What is the value of X in terms of the lengths A and B?

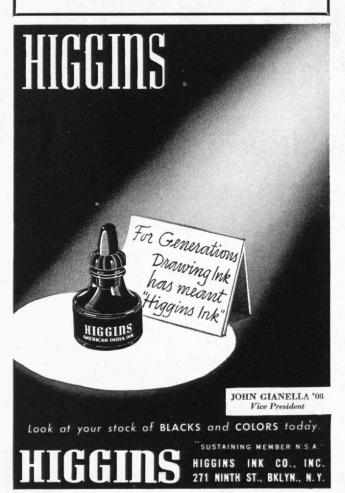


Solution: In spite of the apparent simplicity of the problem, it is easy to make a slip. The correct answer is that X equals three A plus two B. We hope it wasn't too obvious!

We specialize in industrial physics and offer a "GUARANTEED RESEARCH SERVICE"

CALIBRON PRODUCTS, INC.

West Orange, New Jersey



THE TABULAR VIEW

Air Power. — The Army's part in the upbuilding of American strength in the air, as it was recounted at Technology's Alumni Day Dinner by OLIVER P. ECHOLS, major general, United States Army Air Corps, is a story of careful planning and co-operative execution. General Echols' address (page 367) surveys not only the history of the Army's undertaking but also the mechanics of present methods used to bring projects into reality.

Things to Come. — What must America foresee as salient duties in the years after war is over? To this crucial question Karl T. Compton, President of the Institute, presented thoughtful and stimulating answers in his graduation address to the Institute Class of 1942. Victory by itself is not enough, Dr. Compton reasons (page 369), but must be consolidated and made the basis for a sounder organization of life.

Unfoldment. — However strong the contrasts may be between the education and science of today and those of half a century ago, the evolutionary process by which science grows has not changed and today offers rich and new opportunities for useful work. In his commencement address (page 371), Samuel C. Prescott, '94, retiring Dean of Science at Technology, stressed this fact as reassurance to graduates in an unsettled world.

Chart.—A clear course for this year's generation of college people is seen by Leverett Saltonstall, Governor of the Commonwealth of Massachusetts, whose baccalaureate address to Technology's seniors (page 373) recalls memorable events and a memorable man in educational history. Governor Saltonstall's paper stresses the relationship between technology and society in adjusting the means of production to meet special demands.

Speed with Economy



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BATH IRON WORKS CORPORATION

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BATH, MAINE

MAIL RETURNS

Woe Is Us

FROM CHARLES E LOCKE, '96:

After having continually laud. The Review far and wide as the paragon of perfection and having praised its editorial staff as of a super-Sherlock-Holmes breed of error detectors ("If you see it in The Review, it's so"), I experienced a terrible letdown to find staring at me on page 271 of the April issue a picture captioned ". . . The original building of Governor Dummer Academy at Deerfield, Mass." Oh, Fred, how could you do this to me and so betray my confidence and trust in you? Won't the Governor turn over in his grave at this perversion of facts? In a historical novel, such a liberty on your part might have been permitted, but in the meticulously accurate Review, never! We all know that Governor Dummer Academy was born in South Byfield, Mass., and has continued to dwell there ever since. Please, therefore, get busy forthwith and move this educational landmark back to its proper natal site.

M.I.T., Cambridge, Mass.

Humbled and abashed, we offer apologies to a distinguished school, asserting that geographically we are Dummer than even we had thought. — Ed.

Again

FROM WELLES BOSWORTH, '89:

The frontispiece of your May number "struck my eye" with great interest and pleasure, and I looked to see who had designed the temple. Finding no name, I concluded that in your judgment mere architects are not of enough general interest to bother about. In that opinion the great majority of your readers will agree. Admittedly, architects so seldom produce things which give much pleasure that they don't deserve to be inquired about or known. Even when they do strike a note of beauty — as, for instance, the White House in Washington — who knows, or cares to know, the name of the architect?

Still, it may be observed that in the not far distant past, the Institute has encouraged some of its students to believe that architecture might be lifted (by a few of its devotees) to the plane of art. Today, in view of radicalism, Technology may feel apologetic for having done so, but as I looked at this picture, the thought occurred to me that its author might possibly be an Institute Alumnus, and I wondered, if he were, what would his feeling be to have the art of architecture so slighted by you — even if he were humble enough not to care on his own personal account!

Locust Valley, Long Island, N. Y.

And Again

FROM PERCY BUGBEE, '20:

I feel sure that I speak for the many Technology graduates who are prominent in various phases of fire protection engineering when I say that we were surprised to see the frontispiece picture in the April issue of The Review showing a carpenter on some wooden scaffolding with a lighted eigarette in his mouth. In this country we have had a lot of disastrous fires in buildings under construction, and, of course, careless smoking tops the list of all causes of fire. Certainly the distinguished pages of The Review should not be used to encourage such hazardous situations.

Boston, Mass.

On careless smoking, agreed. But The Review pointed out that planners for the future seek improvement over the embodiment presented in its April frontispiece. — Ed.

But Not Now

FROM COLVER P. DYER, '22:

I enjoyed very much reading the article by Henry D. Hibbard, '77, in the April Review. Every once in a while one finds an article such as this — an article which is worth tearing out for future reference. It should be reprinted in some organ so that it might reach the teachers of the country.

Winchester, Mass.



Jim Eaton's speedboat is out hunting Japs . . .

She was a sleek mahogany runabout when she stole Jim Eaton's heart at the last motor boat show. But since then she has put on weight and been painted battleship gray. She is in the Navy now, patrolling a stretch of bay along the Pacific coast—part of an enormous fleet of patrol and picket boats, mine yawls and mosquito boats to which our builders of pleasure craft have turned their world-famous genius and facilities.

American builders of power boats know the meaning and methods of mass production. When they changed from yachts and runabouts to war craft the result was, not a trickle, but a swelling stream of boats for the Army, Navy and Marines.

When problems arose they were

chiefly in adapting production methods to the new designs and special alloys required by war. In cooperation with Revere Technical Advisory staff, many famous boat builders made the change-over as smoothly as they would in producing a new model. For in addition to sound copper alloys, Revere supplies this service to help make manufacturing operations easier and quicker.

Every ounce of copper our country can produce goes directly into vital war materials. Fortunately, Revere is equipped with new plants, improved machines, advanced processes which add enormously to the nation's capacity to produce fine copper alloys. Not only are these plants working to the limit of their resources, but more facilities are steadily being added to bring the day of victory still nearer.

The Revere Technical Advisory Service functions in (1) developing new and better Revere materials to meet active or anticipated demands; (2) supplying specific and detailed knowledge of the properties of engineering and construction materials; (3) continuously observing developments of science and engineering for their utilization in producing methods and equipment; (4) helping industrial executives make use of data thus developed. This service is available to you, free.

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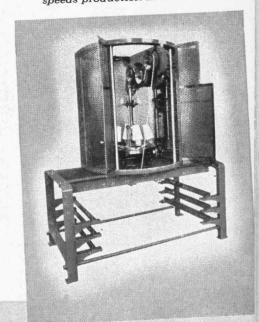
Extreme flexibility, toggle action of formation, interchangeable knitting heads of three sizes and gear changes that control the stitch, readily adapt FIDELITY Hose Reinforcement Machines to a wide variety of applications in rubber hose and tube reinforcement. A few of these applications include: Radiator, Windshield Wiper and Car Heater Hose; Vacuum Cleaner Hose; Beverage Hose for Breweries, Dairies and similar industries; and Garden Hose.

Folder 641 gives you complete data on FIDELITY Hose Reinforcement Machines—Send for it.

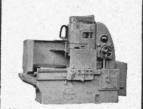
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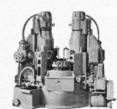


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NO. 16A DUAL



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Blanchard Surface Grinders are cutting costs and improving quality on both production and tool work



THEY are massive, powerful machines with ample weight of metal where it is needed for rigidity. Their controls are convenient and easy to operate. They generate a flat surface by the rotary motions of work and wheel — this makes wheel truing unnecessary and saves cost and time, especially when grinding from the rough.

Since Blanchard Grinders practically eliminate set-up time, the output per machine is high, even with an average operator.

A new development is the production of very fine finishes by Blanchard Grinding. If your work requires flat surfaces with a finish of a few microinches (by profilometer) the No. 11 or No. 18 Blanchard Surface Grinder with fine grit wheel, made by Blanchard, will produce them for you.

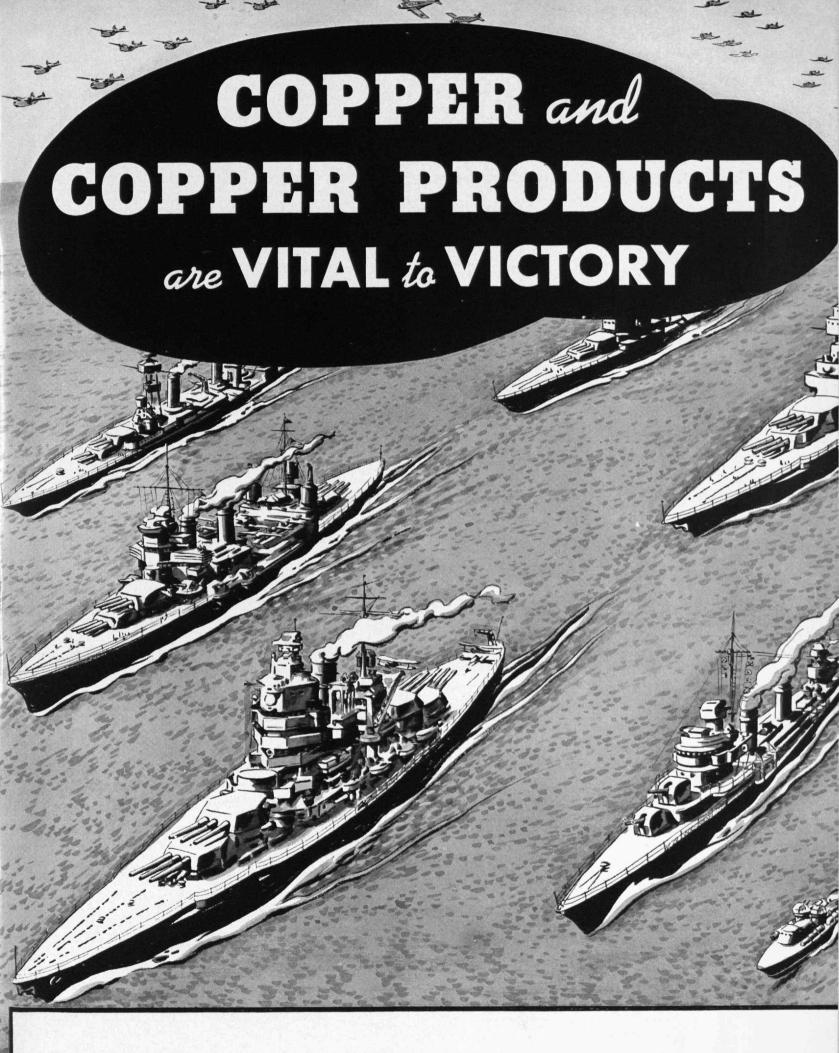
To keep Blanchard Grinders at maximum efficiency, it pays to use wheels manufactured by Blanchard.

A General Catalog covering the complete line of Blanchard products, or catalogs on any specific Blanchard product, will be sent on request.



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HENRY K. SPENCER '09, Treasurer and Manager



PHELPS DODGE COPPER PRODUCTS CORPORATION



IT HELPED LONDON TO "TAKE IT"

Think of the biggest fire you ever saw and multiply it a thousandfold. Conflagrations like that were common during the great arson-blitzes that threatened London in the terrible autumn of 1940. Never did firemen face such tremendous odds so often.

But London was ready. For months the British had been buying fire hose from America, scores of miles of it built to A.R.P. specifications by the G.T.M.—Goodyear Technical Man.

Day and night that hose took a beat-

ing, on pumpers, fire boats and taxi-drawn reels. It was yanked through streets and hauled up ladders, entangled in ruins and buried by debris, but it kept the water coming.

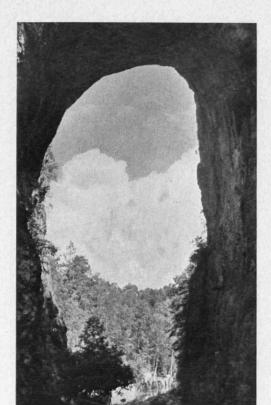
London took it that fall and put it out with the help of Goodyear fire hose. And today many

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— prepared by the G. T. M.
Contains many suggestions
for increasing the life of hose,
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Paul Cohen,'
Through the arch of the Natural Bridge in
Virginia

VOLUME 44

NUMBER 8

THE TECHNOLOGY REVIEW

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EDITED

AT THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY

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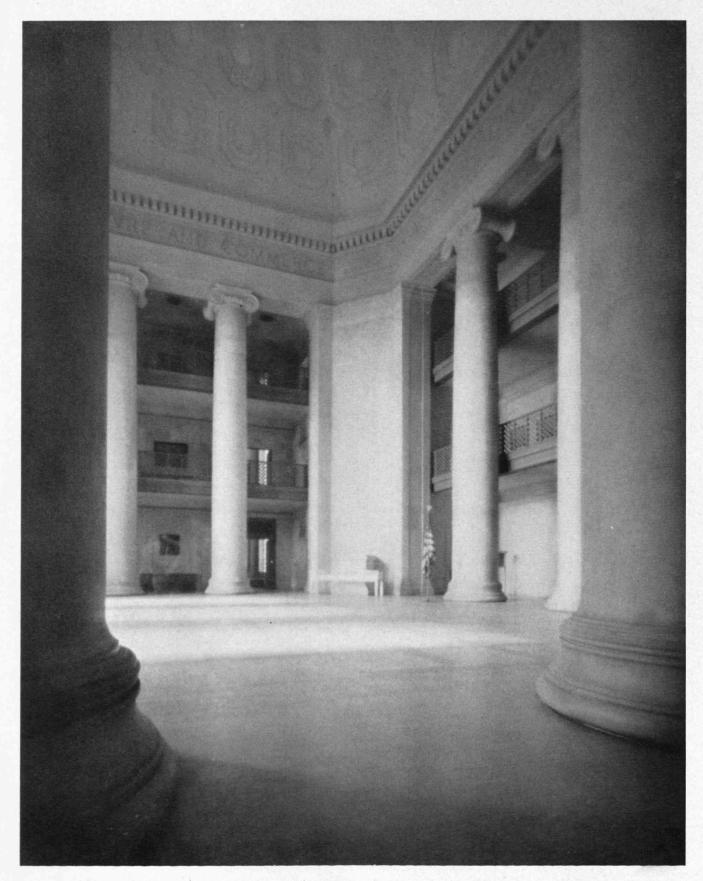
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P. M. Morse



LENSLESS

In contrast to the ingenious picture-taking devices described on the opposite page, the camera which made this reproduction of the Rogers Lobby had no lens. Donald M. Fellows, research assistant at the Institute, made this shot by the age-old pinhole method, using a tiny hole in paper-thin metal two inches from his film. Photographically, the lobby presents a difficult problem. Its great height and the short distances available make the use of a wide-angle lens essential if any appreciable portion is to be photographed by a standard camera. A certain amount of distortion may result.

THE

TECHNOLOGY

REVIEW

Vol. 44, No. 8



June, 1942

The Trend of Affairs

Depth of Field

CLANCING up from his book to recognize a friend across the room, a person with normal eyes takes for granted that he will see book, friend, and all intervening objects clearly — in perfect focus. A photographer would give his eyeteeth for a lens which would do the same thing. Actually no eye can do it either; the illusion of a virtually infinite depth of field arises from the ability of the retina and the brain to retain an image and from the fact that, by voluntary and automatic movements of the eye muscles and by random jarrings and movements of the blood, the focal length of the eyes is always and rapidly changing.

For a lens of a given focal length and open at a given aperture, a definite slab in space exists in which objects can be pictured with acceptable sharpness. Objects in back or in front of that region are fuzzy. For a lens of 50-millimeter focal length and f/2:8 aperture, a common condition in professional moving-picture work, the depth of field for an object eight feet from the camera is about 14 inches. By various and often undesirable expedients, such as the use of more light or a lens of shorter focal length, the depth of field may be increased, but it remains a major limitation on the photographic arts. An actor declaring love to even an Academy Award winner must keep it confined within the chalk lines marked on the floor of the set or find his efforts slightly blurred. More than is often consciously realized, the inability of the camera lens to sweep like the eye across the stage has channelized the writing, directing, and acting of motion pictures.

Recently two determined efforts to give greater depth of field to the camera lens have received attention. One of these is the so-called IR system. In this method, the space to be photographed is divided into regions, or slabs, each of which is narrow enough to be successfully

photographed by itself. Every region is given its own lighting, which is carefully arranged to spill as little as possible into adjoining regions and which is controlled by a separate circuit. A frame of film is exposed, and as it remains exposed each region is lighted up in turn while all the other regions are kept dark. In synchronism with the flashing of the lights, the lens is refocused so that the lighted region is sharply defined on the film. The method, of course, requires artificial lighting. Gasdischarge lamps of the type used in flash photography lend themselves readily to the demands of the system.

The other method is featured by a rapidly vibrating lens which can change the focus of the entire lens system from, say, four feet to infinity as often as 13,000 times a minute. This rapid and precisely controlled motion over a maximum of 0.3 millimeters for a 50-millimeter lens is obtained by electronic means. The lens is designed in such a way that the focus may be changed without alteration of the image size. It is claimed that because the images register so well over one another, the sharp impressions apparently tend to mask the fuzzy ones and that the net result is hence a photograph with great depth of field and acceptable sharpness. The fact that out-of-focus images do register on the film means, however, that the focus, while deep, is not so sharp as could be obtained with a conventional lens over a limited region.

Fifteen Days in a Subway

ACCORDING to Joseph B. Eastman, director of defense transportation, automobiles last year covered over six times as many passenger miles between cities as did busses and railroads combined. But the rubber shortage has cut automobile mileage all over the country, and gas rationing is acting as a further restriction for 9,700,000 passenger cars in the East. With the

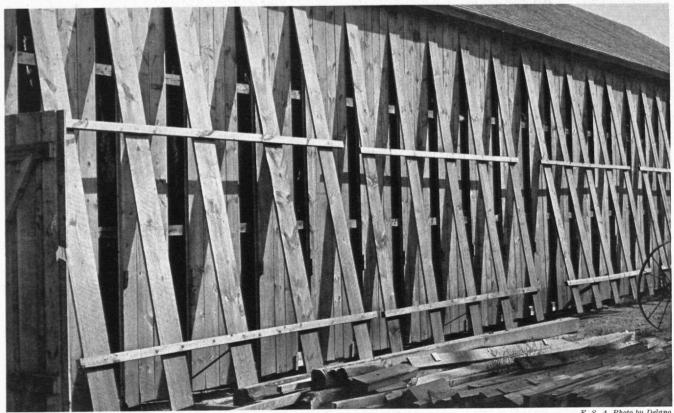
limited supply of new cars being carefully doled out and with old cars expected to disappear from the roads at rates variously estimated at from 1,000,000 or more in 1942 to 15,000,000 in the next two and a half years, heavily increased loads for public transport facilities are as certain as taxes.

The decline in the use of the automobile and the increase in industrial activity are creating for transit facilities within cities a similar problem and one of greater magnitude inasmuch as surface trolleys, subways, elevated lines, and city busses carry more than 10 times as many passengers a year as do railroads, intercity bus lines, and airplanes. Mainly because of increased employment, urban transit traffic was already above normal - 1938 - levels before factors reducing automobile travel began to operate to any great extent. Now, with the decline of the private car, authorities predict that in 1942, urban transit passengers will number 20 per cent more than in 1941. Significantly, the passenger load has not yet reached the 1929 peak, although the employment peak has been exceeded by 13 per cent. Like railroads, the city trolley and bus systems have adjusted themselves to an individually motorized America, and although they can still take care of a considerable expansion in their duties, they do not have the equipment, nor, under present conditions, can the equipment be built quickly, to face the complete cessation of private automobile traffic. The usual bus or trolley car ordinarily handles 35 to 50 people, compared to the 1.5 to 1.8 persons normally carried by an automobile, but only an estimated 77,000 public transit vehicles are in operation, and new ones can be built no faster than an A-3 priority can furnish the materials.

For once, the great metropolitan areas will fare comparatively well in a traffic crisis. This relatively good position in the coming crush for standing room may be explained in part by the fact that such areas have always been beset by traffic problems. Before the world's first subway was opened in London in the early 1860's, impatient Englishmen were complaining that it took longer to cross London than it did to go from London to Oxford. Today, with 73 miles of subway and hundreds of miles of surface routes, Londoners have modified their complaints only slightly. As one commentator remarked, "In providing facilities for traffic, cities in reality create facilities for more traffic."

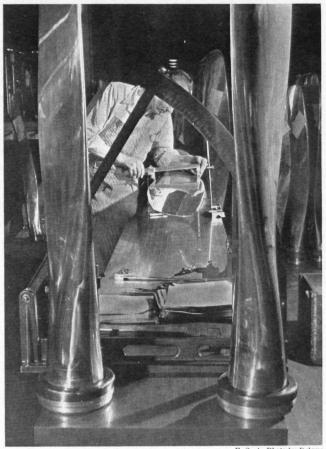
Public transit vehicles are far more economical of road space than are automobiles; a traffic count taken about four years ago in the streets of Detroit showed 3,500 private cars carrying 7,900 persons, and 360 transit vehicles carrying 21,115 passengers. Through sheer lack of road space, therefore, a greater proportion of the population in a large metropolis uses the public transit system than is true of the population in a smaller city. Naturally, public transit systems cannot give as good coverage in the less densely settled areas of small and medium-sized cities. Moreover, the establishment of a large war industry in such cities means a relatively greater disturbance in their traffic load. Cities of less than 250,000 population are therefore experiencing the sharpest increase in public transit traffic.

Large cities are more apt to have rapid-transit systems, which are about the fastest means of moving urban passengers and which are expensive to construct even without the use of the marbles and stainless steel that adorn Moscow's glittering Metro. Without its



F. S. A. Photo by Delane

Accent on the upright — "doors" on a Connecticut tobacco barn open for ventilation



F. S. A. Photo by Dela

At the inspection table — propeller blades being tested for pitch

and curvature

incomparable rapid transit, New York could not perform its daily miracle of increasing the number of people in the area south of 61st Street on Manhattan from a resident population of about 630,000 to a working-day population of nearly 4,000,000. New York's 133 miles of subway route have also produced that interesting phenomenon known as the subway commuter who, on the average, spends 10 hours a month underground, the equivalent of 15 eight-hour working days a year.

Volumes of Interest

BY CHARLES H. BLAKE

To is now pretty well established that the recently completed New England Mutual Life Insurance Company Building is the third "permanent" manmade structure to occupy, in the last 3,600 years, the site of the old Rogers Building on Boylston Street, Boston. The first, a now famous fishweir, is described in detail by Frederick Johnson and others in an extensive report * just published by the Robert S. Peabody Foundation for Archaeology at Phillips Academy, Andover. That this structure served as a fishweir is not proved, but certainly no proof exists to the contrary. We must suppose that a considerable population cooperated in building it, since the portion uncovered in the recent excavation consisted of many thousands of stakes with brushwood between them. These rows, or

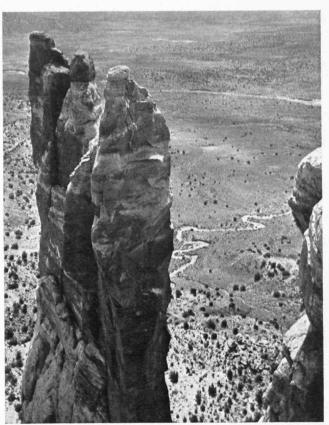
walls, of wattle extended generally north and south across the whole excavation, which exposed 65,000 square feet of the structure. There is evidence that the arrangement of stakes and wattle stretched farther on all sides — no small undertaking.

Mr. Johnson had the foresight to collect material suitable for examination by specialists in the study of wood, peat and pollen, and mollusks and other living things found in marine deposits. Hence we have the description not only of the structure but, as well, of its surroundings when built and of the subsequent climatic and geologic changes the site underwent. The account sets a high standard to be aimed at by future works on American archaeology.

Great improvement in the human race would be certain, someone has said, if as much attention were given to the breeding of our children as to the breeding of horses and cattle. The path to such a worthy goal is beset with several obstacles, not the least of which is our profound ignorance of necessary, basic facts of human heredity. I think it is not too pessimistic to opine that we know something of less than 1 per cent of the genetic factors involved in the characteristics of a human being. Very often we can say only that the individual is normal in respect to a given factor but not how that normalness is produced physically and chemically.

Some light shows on the eastern horizon. These rays, few but bright, are described in a little book, New Paths in Genetics,† by a Sedgwick lecturer of several years ago, J. B. S. Haldane. It is a stimulating summary of the

† New York: Harper and Brothers, 1942, 206 pages. \$2.50.



Paul J. Wool

Cliffs in Zuñi country

relations of formal genetics to biochemistry, embryology, and, to some extent, mathematics. Biologists are now less concerned with the mechanics of transmitting a gene from one individual to another than with the chemistry by which the gene produces its visible effects.

Magnets and Metals

IKE everyone else who investigates the properties or the structure of physical things, the student of magnetism is brought ultimately to working in terms not merely of atoms but of the electrons within the atom. The magnetic properties of the elements which are basis of his research are due almost entirely to the electrons surrounding the positively charged nucleus of each atom. Systematic variation in the number and arrangement of these electrons occurs throughout the periodic table of the elements, giving rise to corresponding variations in the magnetic properties of the materials represented. Since the distribution of electrons in free atoms is reasonably well known, the magnetic properties of free atoms are fairly well understood.

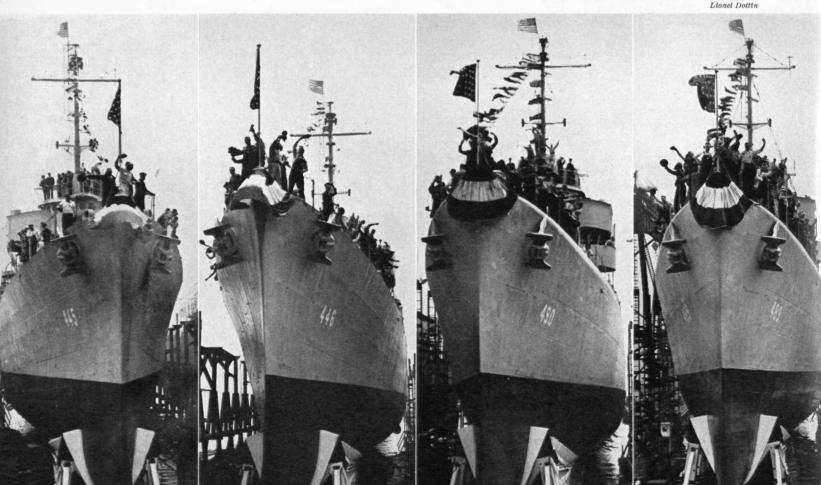
When atoms combine, however, as in a solid element or in a chemical compound, the distribution of the outer electrons is greatly modified. This shifting of the electron pattern of combined atoms leads to a change in the magnetic properties of the atoms individually and hence to special magnetic properties for them in combination. Many of the other physical properties of matter, such as

electrical conductivity, color, and thermal expansion, are influenced by these same changes in electron configuration. For this reason, a study of the magnetic properties of solids can contribute to our knowledge of their structure. From the results of studies of magnetic properties, the investigator can work back in terms of electron patterns toward reasons for the other properties of the substance.

In the magnet laboratory at M.I.T., where Albert R. Kaufmann, '38, Assistant Professor of the Physics of Metals, has been carrying on during the absence of Francis Bitter, Associate Professor of the Physics of Metals, better understanding of the electronic configuration of pure metals and alloys has been sought in the fashion suggested above. In addition, work has been directed toward an understanding of the distribution of atoms in alloys. Individually, the studies are not of great consequence; cumulatively, however, they possess decided importance, as they contribute to knowledge of the state of electrons in a solid material. The alloys investigated range from ordinary systems such as iron in copper to unusual materials such as tantalum in nickel, and iron in the rare-earth metal cerium. Nickel alone is about one-third as magnetic as iron. Adding tantalum to it, thus stuffing in a foreign atom and modifying the configuration of the nickel atoms produces a far less magnetic alloy. When the tantalum addition reaches about 20 per cent, the alloy is no longer magnetic. (Concluded on page 426)

A new world's record in the launching of destroyers was set in the yards of the Federal Shipbuilding and Dry Dock Company at Kearny, N. J., on May 3, when these four destroyers went down the ways in 50 minutes. The parade to the water began at 11:40 a.m. when the U.S.S. Fletcher (No. 445) was launched. Fifteen minutes later, the U.S.S. Radford (No. 446) followed her sister ship on the same wide way. Twin $destroyers \ on \ a \ neighboring \ ship way \ then \ took \ to \ the \ waters \ of \ the \ Hackensack \ River: \ the \ U.S.S. \ Quick \ (No.\ 490), \ which \ slid \ from \ dry \ land$ at 12:15, and the U.S.S. Mervine (No. 489), which at 12:30 terminated the procession of new sea power. The M.I.T. is especially interested in this achievement: Gordon G. Holbrook, '10, is general superintendent of the yard, and Charles Edison, '13, Governor of New Jersey and former Secretary of the Navy, was the principal speaker at the launching.

Lionel Dottin



Building Air Power

The Army Air Program, in Constant Vigorous Growth, Envisions Balanced Forces Based on Tactical and Strategical Principles

By OLIVER P. ECHOLS
ALUMNI DAY ADDRESS

NE of the greatest military advantages of the aggressor nations is that they plan their aggression years in advance. They have the advantage of the initiative. They know what nations are to be their enemies, and they choose the time and place of the fight. In designing their aircraft, the Germans thus knew their problems: They were to attack Poland, France, Russia, and, subsequently, England from continental bases. The Japanese also knew their problem and planned the execution of it extremely skillfully, within the limits of their resources.

Officers of the United States Army Air Corps of my generation were firmly convinced for many years that the next war would, to a large extent, be an air war. It was a long, hard road to convince our people that aviation had the reliability, mobility, and striking power which we believed it possessed. To sell the idea of air power was difficult, but with such meager funds as we were able to obtain for the Army Air Corps we plugged away at the development of those types and models of military airplanes which we believed were necessary for use by a well-rounded air force in the war which was to come. We developed high-altitude pursuit planes for the interception of high-flying aircraft, medium-altitude pursuit planes for operation against bombers and for support of ground troops, light bombers for support of ground troops, medium bombers for the battlefield bombing and the defense of the shore line, and heavy bombers for long-range, strategical operations. We planned a balanced air force based on tactical and strategical principles. Our object was to build air power. We did not know when the next war was coming or where our airplanes were to be used, but we knew that modern military airplanes could not be designed and produced overnight. Their complexity is such that two years' work is required on a large one. These airplanes had to be ready for production at the beginning of the war, or else it would be too late.

Let us see how sound our thinking was in this respect: In France and later in Libya and Russia, where great ground armies with their mechanized forces were locked in a death struggle, the requirement has been for pursuit planes, light bombers, and medium bombers. The army which has lost control of the air has lost the battle. In the Philippines, Singapore, and Java, the results of failure to maintain air superiority have been seen. During the spring of 1941, after the Germans had been neutralized in their air assault on England, the British began to think of the offensive. What could they

do? Bomb Germany! How? The American heavy bomber. Immediately there came a demand for a very large number of heavy bombers, which must be supplied immediately. This request, of course, could not be filled at the time, but fortunately the United States then had started production on two types of very superior four-engine bombers.

Much criticism has been heard concerning American airplanes. This criticism is not justified by the records. Combat airplanes are designed for specific missions. There is no such thing as an all-purpose airplane. Such a machine would not perform any mission well and would be an easy prey in combat. When an airplane is assigned to a mission which it was not designed to perform, it is at a disadvantage. A number of instances have occurred when American airplanes have been put to uses other than those for which they were intended. In England, Russia, Libya, the Philippines, China, and Java, however, I know of no case where American airplanes have not been able more than to hold their own with the best the enemy has had to offer. This is only a beginning, as our best airplanes are just now starting to roll off the production lines. I believe that coming events will soon convince the American public that, taken as a whole, the best combat airplanes in the world are being produced here.

We now have in production two high-altitude pursuit planes — the Republic P-47 with the 2,000-horsepower Pratt and Whitney air-cooled engine, and the Lockheed P-38, a small twin-engine interceptor equipped with two Allison liquid-cooled engines. These airplanes are heavily armored, are equipped with leakproof tanks, and carry offensive fire equal to that of any pursuit airplane of any other nation. Equipped with turbosuperchargers and having speeds in excess of 400 miles an hour, they can fly higher and faster than any other pursuit planes in the world. Our medium- and low-altitude pursuit planes, the Bell P-39 and the Curtiss P-40, designed for the support of ground troops, are giving a splendid account of themselves on nearly every battlefield of the world. American medium and light bombers, such as the Martin B-26, the North American B-25, and the Douglas A-20, are the fastest airplanes of their type in the world, and in our heavy bombers we have two models - the Boeing B-17 (Flying Fortress) and the Consolidated B-24 — which will fly higher and faster than any other heavy bombers in the world. The Boeing B-17's, with their superior performance and powerful defensive turrets, have proved in the East Indies and



Basic training planes ready for the takeoff. This long line of machines illustrates the efficient group methods in use by the Army in its expanded pilot training program.

the Philippines that they can outrun and outfight the best Japanese pursuit planes. These are, in general, our production airplanes. I repeat that they are second to none. Other and better planes, in each category, are in the experimental shops, and some of them are already on the production lines.

When Germany was building up her air force in 1934, the United States Army Air Corps had less than 1,450 planes and 1,500 officers, and four years later, at the time of the Munich conference, the Air Corps had only 1,773 airplanes. In spite of the President's efforts to build an air force, not until the fall of France were the people of the nation sufficiently aroused from their complacency to demand that the United States become an air power. The Air Corps was given funds for 3,000 planes in June, 1940, and for 18,000 planes in September, 1940. The latter date — September, 1940 — is the beginning of the American effort to become an air power. We were given approximately two and a half billion dollars and told to build an air force overnight. With an industry which had been on a starvation diet all of its life and had never been called upon to build more than a few hundred airplanes a month, a large percentage of them commercial, we were expected to place orders and begin to produce thousands of combat airplanes immediately. Because of the well-made plans of the War Department and the patriotic attitude of the aircraft industry, we were able to place orders for this entire amount within less than two months from the time the funds were authorized. Immediately we were subjected to a vast barrage of criticism, however, for having so many airplanes on order and so few on hand. Germany had taken six years to build her air force, but the American public had apparently believed that we could turn appropriations into airplanes overnight.

The 21,000-airplane program was just the beginning. It was immediately increased, as the President had set a goal of 50,000 airplanes a year for the Army and Navy. This objective, heretofore considered impossible, was in sight. It was quite an accomplishment. Then came Pearl Harbor. The whole military strategy of ages was changed at once. America had been hurled into a global air war. The President declared last January that we would produce 185,000 airplanes within two years and that in 1943 we must reach a productive rate of more than 10,000 airplanes a month. This was an entirely different problem. It called for a complete resurvey of the national economy with reference to labor, management, materials, and machine tools.

In our initial expansion program, we relied almost entirely on the aircraft industry. Plants were built, management was thinned out, labor was trained, new machine tools were procured, and the aluminum and magnesium industries were expanded. Although the aircraft industry responded in a magnificent manner, the fact soon became apparent that management would become a serious problem in any further expansion, and that in the event of a real emergency, involving our entire industrial effort, the great automobile industry would have to be relied upon to carry a large proportion of the aircraft load.

With the assistance of William S. Knudsen, lieutenant general, United States Army, and George J. Mead, '16, of the National Defense Advisory Commission, the War Department undertook to bring the automobile industry into the aircraft production program. Started in the summer of 1940, the conversion progressed slowly at first. It was no easy problem for the aircraft industry, the automobile industry, or the War Department. Manufacturers inexperienced in airplane production had to be told the know-how of building aircraft, aircraft engines, and aircraft accessories, of which many were new and untried and for which the engineering drawings and data had frequently never gone beyond the experimental shops. To get the necessary engineering data from the aircraft manufacturer to the automobile production line has not been an easy problem. Further, there have been, and still are, certain honest differences of opinion, based on different experiences, as to the best methods and procedures. The aircraft manufacturer works in soft materials; the producer of automobiles, in hard materials. The aircraft manufacturer has become accustomed to change, with his series of small orders each necessitating alterations and improvements. Often being required to go into production on an unproved article and having to remedy defects in the production line, he has become nimble, alert, and versatile. He is not easily discouraged; he is a pioneer, with imagination and a willingness to try the impossible. It is greatly to the credit of the aircraft manufacturers that, despite the tremendous load of their own, they have turned over their designs and spent unsparingly of their time in assisting in the conversion of other industries. (Continued on page 382)

Beyond Victory

In All Life, the Strength to Maintain What Has Been Secured Is an Imperative Need; Lessons from the Past Stress This Necessity in the Present

By KARL T. COMPTON

ADDRESS TO THE CLASS OF 1942

THE time has now come when I have conferred upon you the degrees to which your diligence in work and study has entitled you. The phase of life that for you is thus closed is always a critical one. To each individual here it has doubtless been marked by experiences that are likely to prove memorable in your lives whether those experiences have come from contact with your teachers or with your fellow students or with others, but to all it must be memorable alike for the happenings within the Institute and the mighty doings outside. . . .

All who have watched your doings have testified that you have acquitted yourselves well, but such activities, important as they are for you, for the Institute, and, in so far as Technology influences the life of the country, for the nation as a whole, are, of course, overshadowed by the one great incident of our day and generation, the war. We are all gratified to know that here, too, in so far as you have yet had opportunity for action, you have acquitted yourselves well. Practically universal has been the readiness to serve, to put aside all selfish considerations and to acquit yourselves like men in a crisis that puts the moral fiber of all to a real test. . . .

On you is the burden but also the privilege of contributing to the successful prosecution of this war and to the great reconstruction that will inevitably follow it. You have had the right kind of training to make you useful both in war and peace. In the class rooms and laboratories your training has been primarily scientific and the best permanent possession that you can have acquired as a result of that training is a real appreciation of the spirit and the method of science, the insistence on facts, however ugly, the need of foresight and of orderly procedure, the insight into the vast resources of nature and the realization of the dependence of man's progress towards evil or towards good on the mastery of those forces.

Of this you have learned at least a part, but you have learned more. You have learned from intercourse with unselfish and highminded teachers, and possibly even more effectively because more unconsciously from association with your fellow students the need for more than science and more than efficiency, the absolute duty of regard for other people and the willingness to serve them when you can. There is nothing unscientific in this.

There is no ground for the antithesis so often set up between science and humanism. Superficial people talk today of German inhumanity in the conduct of the war as if it were due to scientific education. They even use this as an argument for the revival of classical learning in our schools, forgetful of the fact that there is far more study of the classics in German schools than in America. The fact is, of course, that sympathy with others, which is the basis of what we call humanity, goes far deeper than any such learning as either Greek or chemistry. All educational systems wherever maintained must foster this sympathy and happily there is ample evidence that it is found at Technology in ample measure.

Most heartily do I congratulate the graduating class on the fact that so many of its members have throughout their career here shown a willingness to put self aside and to serve their fellows in a manner that is beyond all praise. The man with the right spirit finds for himself the opportunity for service and many such opportunities have been found in the realm of Technology during your residence here. And now comes the far greater opportunity that none can fail to see and I doubt not that many of your number are ready to give the last full measure of their devotion to the great cause. It is the cause of freedom and of humanity in which we as a nation have enlisted in a spirit of chivalry that must bring out the best that is in us. Let there be no slackness of will nor flabbiness of sentimentality but a manly devotion to high causes at whatever cost. . . .

Whether you go into the fight or not, whether you be active or inactive, in the reconstruction that will follow the war, you who go out into the world now cannot avoid contributing something either to the success or to the failure of the mightiest struggle in the history of the world. It is, therefore, with no ordinary emotion that we see you go, with the hope and expectation on the part of the Corporation, the Faculty, and the alumni that you will prove worthy of the Institute that, through your graduation today, you are henceforth entitled to represent.

MEMBERS of the Class of 1942, the charge which I have just given you is not original with me and was not prepared for you. You have not heard this message before, since it was delivered three or four years before most of you were born. Some of my colleagues now on the Faculty and the Corporation heard it then, and as I read it I wondered whether it took them back 25 years to another commencement when my great predecessor, Richard Cockburn Maclaurin, in these same words addressed the first class to be graduated from Technology during the last World War. Quite probably some of the very young men to whom he gave this message were your fathers, commencing, as you do now, their careers in a world at war. I have quoted his address verbatim, except for the omission of six sentences and the change of two words.

I could not better this charge. The fact that it is as appropriate today as it was then proves its fundamental truth. But there is significance in the fact that only 25 years after the war to end war, we are again engaged in a World War more far reaching than the last. So let me supplement President Maclaurin's charge only by calling attention to some lessons to be drawn from the fact that the same desperate conflict of ideologies, war, and destruction has to be faced twice in one short generation.

Some people have become discouraged and cynical over the failure of the last great struggle, with its sacrifices and its hopes, to achieve enduring peace and

security. The war of 1917 was, for America, a real crusade, and the slogans, "To make the world safe for democracy" and "The war to end war," expressed the deep, unselfish purpose of our people. Today, it seems to me, our attitude toward the war has less of the crusading spirit, less of the enthusiasm of chivalry. As compared with 1917, 1942 is characterized by more grim determination, more efficiency, a more realistic attitude. Certainly the peril to our own country and its ideals is greater now than then. Part of today's grimness arises from this peril and part, I think, from the disillusionment over the failure of the last war to end war and to make the world safe for democracy. We now know that simply winning the war, as we did 25 years ago, is not enough to achieve permanent security. With all its effort and sacrifice, this war will be only a first step toward the goal which is desired.

You will recall that President Maclaurin said: "... The best permanent possession that you can have acquired as a result of that training is a real appreciation of the spirit and the method of science, the insistence on facts, however ugly, the need of foresight and orderly procedure. ..." As I see it, the last World War was an experiment — on a huge scale, to be sure, but nonetheless an experiment. We had a theory, and we acted in accordance with that theory, but we did not accomplish what we hoped. This is a fact, an ugly fact, which we should face honestly in the spirit of science in order that our next attempt may avoid the earlier mistakes and profit by the earlier lessons.

Viewed in the spirit of science, cynicism and despair are replaced by faith and encouragement. For in science, no experiment is ever a failure; it may not yield the results which were hoped for, but it always yields new knowledge and experience which can be profitable if intelligently evaluated and made the basis of further effort. To strengthen and guide us as we again begin a fresh effort to defend the right of free men to live and work unmolested and unafraid, let us look at some of the knowledge gained by experience during the past 25 years.

The first fact is that democracies can win. We hear much about the inefficiency of democratic government; we see many evidences of lack of consistent planning and effort, and many evidences of slowness of public opinion to crystallize. In these respects a Kaiser or a Führer leading a regimented people to strike the first blow has an initial advantage. But the record of past events shows that democracies have more than held their own in war, as also in peace and in standards of living. Why this fact is true lies in the realm of hypothesis, but we believe it is because people who exercise the rights of self-government, people who depend on their own free choice in what they do and how and where they do it, people who are trained to take responsibility are in the mass more powerful than those who are driven by the boss or who follow the leader. The morale of free people is better able to stand strain, their reserve strength is more profound, their leadership extends clear down into the ranks.

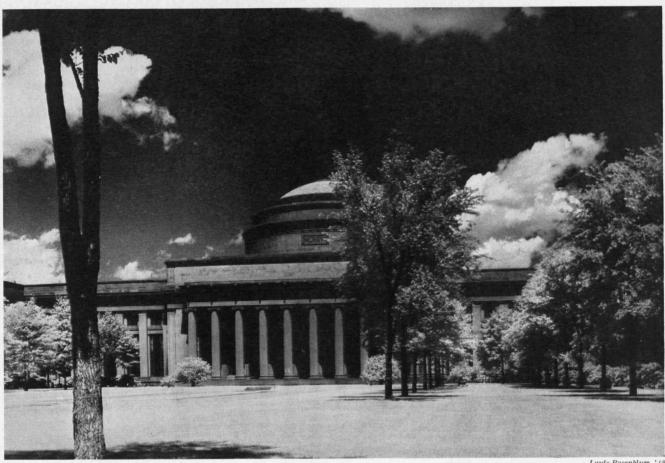
A second fact is that democracies are paying a terrible price now, as they did in 1917, for their unpreparedness to meet an armed aggressor. Our dislike of war and our

wishful thinking led us to refuse to take even elementary precautions in the face of an increasing series of acts of international aggression by Japan and Germany, which we knew to be straining their utmost to build invincible military power. For example, Congress refused to permit the fortification of Guam because the people back home had their hearts set on peace and remained blind to the fact that Japan was fortifying the surrounding islands with feverish speed. Moreover, only a year ago, a demonstration of antiaircraft firing had to be planned with greatest care because of lack of ammunition. Furthermore, high governmental officials, unwilling to face the possibility that our rubber supply might be cut off, compromised on halfhearted steps. Now we are again paying the penalty in confusion, loss, and defeat while we suddenly wake up to the realities of the situation and strain every nerve and every dollar to make up for lost time. We are making up for lost time. The war effort is now proceeding at a pace which would have been deemed incredible a year ago. We have good reason to expect ultimate victory, but our initial unpreparedness is giving us a heavy handicap.

A third fact — and this lesson is by far the most significant — is that victory is not enough to secure the goal for which the war is waged. We fought the last war to make the world safe for democracy; we won the war, but democracy remained safe only for as long a time as was required to rebuild an aggressive military power aimed at achieving national ambitions at the expense of other peoples, by threat of force if possible and by actual force if necessary. Looking back over the past 25 years, let us consider where we failed and what we might have done to succeed.

We in America, who had sacrificed so readily to win the war, became suddenly and strangely unwilling to cooperate in maintaining the peace. Our sabotage of the League of Nations places squarely on us, in my judgment, the major responsibility for the world mess today. For two years we had played our world role with crusading spirit and missionary zeal, and then suddenly we crawled into an isolationist shell except for purposes of profitable trade. I hope we have learned the lesson that we can no more avoid a share of responsibility for world events than a citizen can shirk his share of responsibility for the government of his city; at least we should now know that if we shirk this responsibility, we nevertheless cannot escape the results. When another chance comes to live in a world at peace, we shall be well advised to do our part in managing world affairs.

We have likewise been too prone to think that when a war is won, a treaty is signed, and an organization chart is set up to implement our purposes, the objective is then secure and needs no more attention. If, here and abroad in the last 20 years of peace, we had devoted to the task of making democracy work even a fraction of the thought and sacrifice that we devoted to the fight to save it, I believe we should not now be fighting to save it over again. Perhaps we could have made democracy work even in Germany in the 1920's had we put into that job one-tenth of what we are now spending to save our own democracy from the ideologies that arose out of the ashes of the failure of Germany's democratic attempt. (Continued on page 390)



Louis Rosenblum '42

Prospects and Retrospects

From Each Ending, New Beginnings Are Made; This Principle of Evolutionary Change Is Fundamental to Progress

BY SAMUEL C. PRESCOTT

COMMENCEMENT ADDRESS

N the 48 years since, like each of you, I was a member of the graduating class about to receive the diploma of the Institute, I have seen many successive classes enter, carry on their four years of undergraduate work, and then, as fellow Alumni, depart from the classrooms and laboratories, and scatter throughout our country and the world to make their professional careers in science and engineering. Of these many thousands of men, you constitute the last class to depart during the long period of my staff tenure, and thus, as graduating class and retiring professor, you and I are in a limited and unofficial way celebrating a commencement together.

As "commencers," to use the ancient English university term, we have each merely completed one definite stage in the journey of professional life and now pause briefly before setting out on the next phase, where we

may utilize and apply the training already gained, and where, if we are wise, we shall continue to seek new knowledge. For nearly four years you and I have been what St. Paul would have called "parts of one body," individual units in the same great organization which we proudly call our Institute of Technology. In different ways we have each in some degree shared functions of learning and teaching, of laboratory work and research, of theory and practice in our respective fields. Each has taken part in various other aspects of our scholastic and extracurricular activity. We have been individual corpuscles in that blood stream of pulsating life which has daily coursed through Technology's arteries, corridors, and passages, and circulated to classroom, library, and office. Thus we have in some measure shared Institute life together and have learned much of its purposes and its high ideals. Some of you I have been fortunate to know

as my own students or as sons of former students; some, in other ways. Now the particular type of association which each of us has had with the Institute is about to terminate, and for you as Alumni a new, important, and permanent one will begin. We end a definite era in our experience — you because you have successfully and honorably completed the requirements for your degrees and will henceforth represent Technology in a professional way, and I because the hand of time cannot be stayed.

Since most of your life is in the future and most of mine is in the past, I venture to speak to you briefly and simply on prospects and retrospects. Carved in the enduring stone over the fireplace in President Compton's office is a Latin inscription, Alia initia e fine, which may be freely translated, "Other beginnings arise from each ending," or, less cryptically and more generally, "The conclusions reached as each problem is apparently completed provide a starting point for new developments

and more far-reaching experiences."

The theorem here stated is as true today as when first expressed hundreds of years ago. Its broad significance and numerous implications, whether in the normal course of the affairs of life, or in sudden and cataclysmal happenings which may be either progressive or retrogressive in their final results, are too obvious to demand extended exposition. In simple phrase, one step leads logically to another; one discovery opens a new world. As the results of research make new advancements possible, the principle is true in science and engineering; it is true in the evolution of social and economic processes and in national affairs, as should be recognized by social and political reformers who would make radical changes without deep and adequate thought. Furthermore, it is true in the personal and professional life and progress of the individual.

In our own fields of interest, you well know the great success and rapid development of science. New technological applications are due to the fact that the scientists and engineers whose works are marked by real distinction have been and are continually building upon previously laid foundations of proved stability. Science does not advance by revolution and by tearing down the existing structure of what is believed to be truth, but by testing, proving, and remodeling after thorough and constant re-examination of current theories, and by making new additions to our knowledge through research. As technical graduates you should continually keep in mind that your professions are not static but progressive, and that the ways of doing things and the things to be done will change with the passage of time. Basic principles will remain unaltered, but new knowledge and new techniques and new arts will continually advance your professions.

If you are to keep in step in the forward march and to attain leadership in your field, you will observe carefully, study deeply, and learn humbly. Experience shows the certainty of this prospect for you, as we look back over the rapid developments and advances which have occurred in the fields of science, engineering, and architecture even during the short period of your lifetime. Recognizing this principle of evolutionary change, a major part of our business as scientists, or engineers, or

men entrusted with management of affairs is to see that the new undertakings in which we are concerned are based on historically and scientifically sound premises, are logically planned, and are honestly and efficiently executed.

Having reached an end of your discipline in formal studies, you are now prepared to acquire and to enlarge the experience which will transform you from students into professional engineers or scientists in your chosen fields of activity. Your diploma will serve as your passport and one of the credentials admitting you to new duties and larger responsibilities. Other equally important attributes are the strength and stability of your character and the quality we call your personality, which includes your co-operativeness or ability to work harmoniously and effectively with other men, whether superior or inferior in rank. These qualities are essential if it is your ambition to make your life useful and successful in a broad way, rather than self-centered and unregardful of others. (May I here interject the statement that you can often learn much from the common workman who may be under your supervision and greatly your inferior in general intelligence, but who knows how to do his own job well.)

I am using the terms "prospects" and "retrospects" in the plural forms because the words may have several different shades of meaning. As prospects we may not only consider "the immediate view within sight of the eye," as the dictionary has it, but that more comprehensive and forward-looking mental vision in which imagination and ambition, as well as a survey of the probable course of events, may enter into the picture. We might call such a long-range view a planned anticipation of a program for the future, based on present knowledge of facts, a predilection for a special field of professional activity, and preparation and adaptability for it. As a student your choice of a Course was a first great step in such an organized program. That unforeseen circumstances may require minor or even major changes in a plan of your future is almost inevitable, but what I wish to emphasize is that a clear purpose in life adds materially to the

probability of definite accomplishment.

Another definition of prospects is permissible, namely, our presumptive expectations of personal success and of rewards in a material sense, which may be partially assured as a result of inherited relationships or connections that have already been established. In the consideration of the prospects of individuals in a group such as you constitute, both shades of meaning must naturally be employed and should be taken into account as you ask yourselves or others the question, "What are my prospects?" My general answer to such a question would be that your prospects in a material and professional sense will be largely determined by your integrity of character and native ability, the excellence of your training in discipline, skill, and imagination, the sense of team play and breadth of vision you have acquired, and your persistence and self-reliance in attempting to realize your hopes and ambitions.

To be sure, time and chance will often make changes in any long-time program we now lay out for ourselves. Fortunately, we cannot foresee all the surprises, changes, and vicissitudes that time may (Continued on page 394)

The Course Is Clear

Problems of Economic and Industrial Readjustment to Be Foreseen in Years after War Promise Wide Demands Upon Science and Technology

By Leverett Saltonstall

BACCALAUREATE ADDRESS

HEN Harvard University was looking for a President shortly after the Civil War, it came to Technology and found a young Professor of Analytical Chemistry and Metallurgy, Charles William Eliot, who became president of the university in 1869 and remained through many very important and formative years.

Dr. Eliot built up a great record and he lived a long time. When he reached the age of 90, Harvard wanted to give him some kind of celebration. Dr. Eliot said he would be glad to have a celebration provided it did not take the form of an obituary, and so a very fine day was planned, full of different kinds of events. I shall always remember that day because I was at the time treasurer of the Harvard Alumni Association and, as such, had a very small place on the platform at Sanders Theatre that afternoon. After a few preliminary songs and talks, the whole front of the stage was emptied. Presently, Dr. Eliot walked forward. He was a man perhaps six feet two or three, and he always stood very erect. As he walked to the front of that stage, where there was no rostrum but just empty space, he was an impressive figure. He said, in starting his talk, "I am going to commence what I have to say today with the same words with which I opened my inaugural message to Harvard University in 1869." These words were those of Edward Everett Hale:

To look up and not down,
To look forward and not back,
To look out and not in — and
To lend a hand.

The whole occasion, with its emotional significance and that fine figure of a man over 90 years old with a great record of achievement behind him, was one that I have never forgotten.

It seems to me that those words of Edward Everett Hale apply today in these difficult times as they may have applied in 1869, when Dr. Eliot became president of Harvard University. Then we were just over a war; today we find ourselves in a terrible war in which the whole world is engaged. In such troubled times as these, a speaker at an occasion like this often declares that it is difficult to know just what to say. Perhaps it is difficult if he goes into details, if he tries to work out exact plans for the coming years. But certainly, as I see the course ahead of the Class of 1942, it is a clear one. It is clear for the immediate present, and it is clear also for the time a little way off. It is clear for the present because you have a victory to win for this country and for the United Nations. This is a total war — it is a war in which every one of us is engaged. But it is upon you, the men of your age, the men who have been graduated from such an institution as this - of which Massachusetts is so proud — that we must depend for a vic-



Federal Works Agency—Section of Fine Arts

Conversion of men and material to the works of peace — such as this mural by William Gropper in the building of the Department of the Interior depicts — will be a major task for science after Armageddon.

tory. We can equip you with arms; we can equip you with wisdom; we can equip you with scientific knowledge; but it is upon you as individuals that we depend to keep our way of life as we know it in this country for

us and our children and your children.

Cardinal O'Connell, perhaps the leading citizen of Boston today, said in an Easter message: "The defense of our altars and our homes is an obligation which rests upon every citizen. The founders of this, our beloved nation, were ready to offer whatever they possessed, even life itself, to maintain the sacredness of their civil rights and their religious freedom and we know that Americans, today, are no less determined to maintain, with God's great help, our land, our territory, our homes, our altars and the precious inheritance of our American way of life."

Now I say the present is clear. I think of how I felt in 1917, when I was a member of the Harvard University Law School, and of the attitude of our class at that time. Toward the first of the year we were uncertain. Everyone was asking the other had he got a job yet and where was he going to work and where did he think the best place to go to work was - what city and so on. And then in the spring of 1917, all that talk stopped. Many of my class immediately went into one of the Plattsburg camps in 1918. The rest of us finished our courses, were graduated, and went into other camps in the middle of that summer. No question arose in our minds at that time as to our course for the next couple of years. No question arose as to what kind of a job we were going to get or in what city it was best to keep that job. The same is true today with the Class of 1942: As I see it, your job, your future, your immediate future are clear. You have your country and you have a victory to win for that country in whatever line it takes - and yours is a scientific line. In these days of scientific quest which involves your safety and our victory, there are many, many ways in which you can now be of immense value to your country.

When we look at the future, after this war is over and victory is won — and that is the only way we can look at the future, that we will win a victory — then it seems to me our course will become a clear one. If we look after victory upon what this world will be, we shall see the need for a tremendous amount of scientific knowledge. After victory, we are going to see this country with more mechanical equipment and more machinery and more knowledge of science than it has ever had in its history. That science will be geared to war uses and

must be turned to the purposes of peace.

That conversion is necessary for many reasons. It is imperative if this way of life of ours is to go on. It is necessary if we are going to find jobs for our people. I have thought many times in the past few months of the problem of jobs for our people here in this state, and our way of life can go on only if we find them jobs and jobs in private industry. Today think of the thousands of men who are engaged in war industry. Think how the plants have enlarged for war purposes. Think of the fact that approximately 28,000 men are now employed by one industrial organization in Massachusetts, whereas that company ordinarily employs only about 14,000 men. Here are 12,000 to 14,000 men who might find employment elsewhere in peacetime, men who have acquired a knowledge of mechanical contrivances, men who want to work and bring up their families and continue to live in Massachusetts. For those men, opportunities of work in peacetime must be found. For that task, they must turn to men of science like yourselves, men who are capable of converting instruments of war into instruments that will make peacetime goods and materials for the layman. It seems to me that after victory is won and you have done your part in winning it, the future is also clear in its general outline.

Recently, when Boston University gave him an honorary degree, Francis Biddle, Attorney General of the United States, spoke in Boston, and what he said appealed to me a great deal. He said this, in part: "Must we lose when peace comes the directness and ferment which come with the breath of war? . . . One of our major problems, when the peace comes, is to learn to use, to live in, the immense productive machine which for the war purpose we have built up. We must have minds bold enough to accept this new economy of plenty, an imagination sufficiently fertile to devise ways of gearing the machine from war to peace, of retooling our capacity from war to peace, just as we are now completing the process of retooling from peace to war." That task which Mr. Biddle has defined will become the job of men of science such as yourselves.

Then, too, when victory is won and this war is over, we shall have a much smaller world in which to live. Think of the airplane, the radio, the telephone, and all the other means of communication that are now becoming more and more scientifically perfect. Think of the recent trip of General Marshall and Harry Hopkins from this country to England and back again in an American bombing plane. Not long ago I had a commercial agent of one of the large airplane companies come into my office to give me some of the ideas with which his company was working. Its imagination is running far enough ahead to make week-end trips to Paris seem not beyond the realm of possibility when this war is over. Think of the contrast with the present. Dr. Compton spends a week end in New Hampshire, and I consider I am going quite a way if I go 20 miles outside of Boston. And yet Paris is not beyond the realm of possibility. If we can go across the ocean in 24 hours, we can fly to the continent of Europe and come back again the same week end.

We are going to have a smaller world, and this fact means that the competition in science is going to be more acute and that we shall have more opportunity for men of your character, men of your training. The future, as I see it, is hence reasonably clear for the Class of 1942.

What kind of thought should be in your minds at a time like this when you are starting your career? As I said, those words of Edward Everett Hale appeal to me enormously. First, "To look up and not down." Today we need more spiritual faith. Men and women today have greater spiritual emotion. They have that because they are uncertain of their own future and so they turn to the higher emotions, to the better emotions that are within them. Today when we look up and not down, we want to keep our ideals in this (Continued on page 404)

THE INSTITUTE GAZETTE

PREPARED IN COLLABORATION WITH THE TECHNOLOGY NEWS SERVICE

A War Class Become Alumni

Early Commencement and Alumni Day Are Occasions Marked by Appreciation and Unity

IGHT hard. And remember you will have your men to look after." Bringing this charge from the Class of 1917 to the Class of 1942, Edward Pennell Brooks, '17, speaker for the 25-year Class at the Class Day exercises held on Alumni Day, April 25, set a keynote which was echoed often during the ceremonies surrounding the expedited graduation of another group of Technology seniors to go from the Institute into a world at war. This is not to imply that Alumni Day, baccalaureate Sunday, and commencement day were a somber series. Rather, the entire occasion, favored as usual by the best of weather — fair skies and a pleasant breeze — seemed to be marked by good cheer and an appreciation of familiar things which was even deeper than is customary. Alumni Day this year was celebrated some six weeks earlier than usual, because of the accelerated graduation necessitated by war. The program itself was shortened by the omission of various traditional events. But the spirit of the occasion was stronger than ever. Wide appreciation was expressed for the readiness and smoothness with which Raymond H. Blanchard, '17, chairman of Alumni Day 1942, and the committees working with him had adjusted matters to the new conditions.

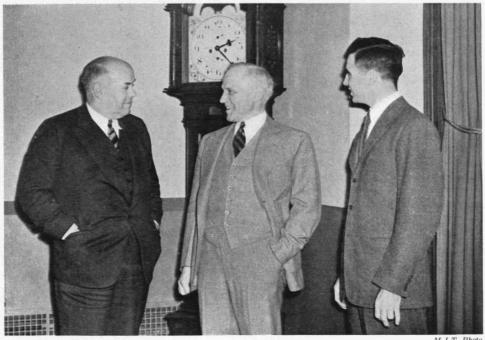
S. Young Tyree, Jr., of Falls Church, Va., chairman of senior week, opened activities on Saturday afternoon with an address of welcome to the Class Day guests, who filled Morss Hall in Walker Memorial. As arranged by the senior Class Day committee comprising Carthrae M. Laffoon, Jr., of Irwin, Pa., and Thomas T. Crowley of Cambridge, who worked with the Alumni Association committee composed of John D. Mitsch, '20, chairman, Eugene Mirabelli, '19, Charles F. Park, '92, and Raymond Stevens, '17, the program went according to schedule through familiar episodes.

. . . For 1892 . . .

Harry J. Carlson, '92, speaker for the 50-year Class, was introduced by William R. Kales, President of the Class of 1892, and drew on his own undergraduate days for comment on the present, saying, in part:

. . . There were queer times in the early Nineties: We were in a deep depression. Melons in the Midwest were ten cents a bushel, but no one had the dime. Labor was seventyfive cents for a 10-hour day, but no one had the money to pay even this depression price. It was just after the days when William H. Vanderbilt was supposed to have said, "The public be damned!" And at least the capitalists of that day acted as though everything were theirs, whereas now the wheel has turned so that capital seems to be damned and labor to be in the saddle. Of those days it was said that any fool could make money (and we did), whereas now it takes a Technology graduate to make even a living. . . .

Presidents await the beginning of Class Day exercises. Dr. Compton chats with B. Edwin Hutchinson, '09, President of the Alumni Association, and Jerome T. Coe, President of the new accession to alumni ranks, the Class of 1942.





M.I.T. I Harry J. Carlson, '92, speaker for the 50-year Class

Ours has been an active Class. The year after graduation, 15 of the Class were enrolled on the teaching staff of the Institute. Since then, at least seven members of the Class have been Heads of Departments in Technology or other similar schools. At least eight more have been full professors one has been chairman of the Faculty at M.I.T. Three members have been presidents of the Alumni Association. Two have been life members of the Corporation, and two have been term members; two are still on that body. Outside of education, I might mention our number as including the President of one of America's large corporations, a Vice-President of one of America's most important railroads, a great engineering builder, an author of worth-while books, a general in the United States Army, and a director of a large and growing technical school. The President of my Class has just completed one of the largest war buildings in the world, covering as it does 60 acres of ground; that is, it puts under one roof an area larger than that from the Embankment to beyond Vassar Street and from the President's house to a quarter of a mile beyond Massachusetts Avenue. And the past President of the Alumni Association tells me his company is building one that is even larger. . . .

You may think that these are troublous times to start out in the world, but all these troubles will pass. You are graduated not as engineers or chemists or architects but as United States citizens, pledged to make the best use of your natural gifts and your acquired knowledge to keep this country and the world at large a safe place in which sensible people may live. In order to do this task, you must help one another. . . . This is a good rule to remember: Help one another and you help yourselves; thus when you are the 50-year Class you will look back happily and still full of courage — for with you then as with us now, life begins at 70!

Transfer of the class ring by Jerome T. Coe of Madison, Wis., President of the Class of 1942, to S. Richard Childerhose of Wilbraham, Mass., President of the Class of 1943, followed Mr. Carlson's remarks.



M.I.T. Photo

Raymond H. Blanchard, '17, chairman of Alumni Day 1942

. . . For 1917 . . .

The speaker for the 25-year Class, Edward Pennell Brooks, was then introduced. Holder of the Distinguished Service Cross for heroism in action as a first lieutenant in the United States Corps of Engineers in France in 1918, Mr. Brooks stressed the similarity between the situation of the Class of 1942 and that of his own Class a quarter century ago. His address follows in part:

. . . You have completed four years of study at the Institute, ending in a whirlwind finish. My Class did likewise. You are being graduated into the service of the nation when that nation is engaged in a major war. My Class did likewise. Before the Armistice in 1918, more than 400 members of the Class of '17 found themselves engaged in the effort to win that war. Before this war is over, you are likely to have an even greater proportion of your members in the service.

Although you are beginning your careers with the same educational background in this great school of engineering and science, I am confident you have one outstanding and important advantage over those who were graduated 25 years ago. At 20 years of age, my generation took for granted our state of society, our economic system, our established values. Doubtless all was not perfect in our world, but we had been brought up to believe the rules of the game were known and that they required only a little touching up. The great advantage that your generation has, it seems to me, is in realizing, as you people do, that your world is changing — that society, economics, values are in a state of flux, and that the rules of the game are being constantly rewritten. Certainly your realization of this fact is likely to make your generation a more effective one than ours has been.

But despite all that head start you have over us, you will find that the opportunities of learning new truths are not all behind you. You will discover, and promptly I dare say, of what great significance to your life is the institution from which you are about to be graduated. You will find that your Technology heritage will begin serving you well, long before you can begin paying back your debt to Tech, or for that matter before you can do it any harm. . . . From this discovery you will go on to discover other things of which you haven't seen much in the books you have studied. . . .

I know the doubts which are troubling some of you as to your ability to discharge creditably your duties in the Army, the Navy, the Air Forces, or war industry, as you leave Technology and go to war. I have sensed again the satisfaction that is to be yours which comes from being in the service of the country — that clean feeling which comes from knowing your duty is being done.

We went to war in '17 as you are doing now in '42, and it would seem that there should be something in the record of the experience of my Class deserving of being passed on to you who are being graduated in similar circumstances. I have thought about the matter a good deal. I must fall back on a story to form the bridge from our experience in 1917 to yours of today.

The officers' training camp was over, and the men with their new commissions had been sent home to await assignment to the regiments then forming. A young lieutenant received a telegram late one night ordering him to report at once to the New York port of embarkation. Such orders meant only one thing — foreign service, which in August of 1917 had been something one dreamed about and thought of as an experience for the distant future. No amount of mental preparation avoids the sadness that comes to a family at the realization that a son is going overseas.

In less than 24 hours the young man was packed and at the depot to take the train to New York. I said good-by—this is a personal story—to my brothers, sister, and father, and there remained the farewell to my mother. It was not easy to open the door of the automobile to greet her. When I did, I found her dry-eyed and smiling. "Good-by, mother," I said. Her reply came back, "Fight hard, son. And remember you will have your men to look after."

Up to that moment my thoughts had been turned inward. I had been thinking about myself, my duty to make good. That charge from my mother turned me about, so that I saw my task more clearly. Twenty-five years later I want that charge to be the farewell message to you from the Class of 1917, whose spirit will ever be at your side, confident that you will carry the tradition of Technology to honor and glory: Fight hard. And remember you will have your men to look after.

The traditional events of Class Day completed the program following Mr. Brooks's remarks. The class gift — a pledge of \$1,250 and a cash contribution of \$250 to the Alumni Fund — was presented by Mr. Coe and accepted in the name of the Institute by President Compton. The Glee Club sang. The seniors, through their Course representatives, were initiated into the Alumni Association. The Beaver orator, Franklin P. Seeley of Stamford, Conn., then spoke. The class banner was presented by B. Edwin Hutchinson, '09, President of the Alumni Association, and accepted by Mr. Coe, and, with the singing of the "Stein Song," Class Day was concluded.

In the interval between the last primarily undergraduate function of the new Alumni and their participation in their first truly alumni affair — the Alumni Day banquet that evening — the dedication of Technology's fourth 110-class sloop, a tea dance in Walker, and the Allan Winter Rowe Memorial Regatta on the Charles busied students, Alumni, and guests.



Edward Pennell Brooks, '17, speaker for the 25-year Class

. . . The Ford . . .

Presented by the Class of 1917, whose spokesman was John A. Lunn, the new sloop was received for the M.I.T. Nautical Association by Walter C. Wood, '17, master of the Senior House and sailing master of the Nautical Association. Stressing the interest which Horace S. Ford, Treasurer of the Institute, has taken in the development of sailing as well as in all other Institute activities, President Compton introduced Mrs. Ford, who christened the new sloop the Ford. Kenneth L. Warden, Jr., '43, of Quincy, commodore of the Nautical Association, presented Mrs. Ford with flowers and announced the inauguration of the Horace S. Ford Trophy, to be sailed for by boats of the 110 class in intramural racing. The trophy, a model of a 110, was made by Elmer H. Peterson, modelmaker of the Department of Naval Architecture and Marine Engineering at Technology. The colorful ceremony on the Sailing Pavilion dock was concluded with a nautical parade, in which the four 110's and the dinghies of the M.I.T. fleet passed in review before enthusiastic spectators.

. . . The Alumni Banquet . . .

For a day of activities which had opened so auspiciously with the Class Day program, the stein-on-thetable banquet that evening at the Hotel Statler was an appropriate conclusion. This year for the first time the members of the graduating class attended en masse, and, since the numbers of returning Alumni had remarkably well withstood dislocations resulting from the earlier date, the hotel ballroom was filled almost to capacity. The dinner committee — D. Walter Kendall, '24,



MIT Photo

Miss Julia M. Comstock, honorary member of the Alumni Association

chairman, Kenneth E. Bell, '17, Josiah D. Crosby, '21, Larcom Randall, '21, Arthur L. Shaw, '09, and Herbert R. Stewart, '24 — had arranged a program of wellrounded interest. President Hutchinson went through it with dispatch, punctuated now and again by ebullient comment from the Class of 1937, which was celebrating its fifth reunion. President Coe spoke as representative of the graduating class.

A noteworthy event of the evening was the rendering of Technology's tribute to Miss Julia M. Comstock, who was formally inducted into honorary membership in the Alumni Association. Dr. Compton addressed to Miss Comstock the following citation:

In June, 1942, you will have completed 50 years of faithful and devoted service to the Institute in its offices of academic administration, beginning under the presidency of General Francis A. Walker. During this period, you have had supervision and responsibility for the maintenance and accuracy of the student academic records, personal oversight of the official Institute publications, and, latterly, direct charge of the personal and historical records of the founders of the Institute, of the members of its Corporation, and of its Facultv.

By reason of your acceptance of, and outstanding performance under, these responsibilities, you have become

Watchful Guardian of the Academic Traditions of the Institute,

Resourceful Compiler of Its Vital Statistics, Authoritative Informant Regarding Its Academic Precedents and Procedures,

Curatrix of Its Historic Memorabilia.

In recognition thereof, and by virtue of the special authority delegated to me by the officers and Executive Committee of the Alumni Association, I hereby confer upon you honorary membership in the Alumni Association of the M.I.T., with all the rights and privileges pertaining thereto.

President Hutchinson presented Miss Comstock with a sheaf of roses numbering the years of her devoted service to the Institute. To citation and presentation, Miss Comstock replied graciously. The Class of 1892 then for a moment took over the proceedings, announcing that since an Alumna should indeed have a class, '92 felt that, being the best of all classes, '92 was none too good for Miss Comstock and had therefore elected her to its ranks.

As guest speaker, Oliver P. Echols, major general, United States Army Air Corps, gave a thorough and interesting picture of the situation of American military aviation. His address, the baccalaureate address of Governor Saltonstall, the commencement address of Dean Prescott, '94, and the graduation address to the Class of 1942 by Dr. Compton, are published elsewhere in this edition of The Review.

. . . The Institute in Review . . .

After General Echols' remarks, President Hutchinson brought the assemblage to their feet cheering as he introduced Dr. Compton. The time had arrived once again in the close interplay between Technology and its Alumni for Dr. Compton's anticipated annual family review of Institute affairs for Institute people, salient portions of which follow:

The role now being played by the Institute in our nation's war effort is, as you will see, very significant indeed, measured by any yardstick. In terms of budget, our special war operations in Cambridge are now running at between two and three times the rate of the Institute's normal peacetime budget and are rapidly increasing. The teaching and research staff has been approximately doubled. During the current year the total enrollment of students at the Institute increased about 50 per cent above normal because of the establishment of special emergency training courses, and this figure will again be doubled next year. To accommodate these activities, we have not only crowded our regular laboratories and classrooms to the limit but have built one small and two large permanent buildings and one very large temporary building, have added temporary stories on top of the George Eastman Research Laboratories, have bought a near-by industrial building, have rented large space adjacent to the Boston harbor, and have received from the Commonwealth of Massachusetts the loan of its fine hangar facilities at the East Boston airport. All these things have been done without publicity, without confusion, and in a highly efficient manner.

Our institution's actions in the corresponding situation prior to and during the last World War are, fortunately, preserved in Technology's War Record, the remarkable book published in 1920 by the Alumni Association of the M.I.T. I should like to review the Institute's preparedness and war effort of that period as a background for discussion of its

similar program today. . . .

The Institute gave instruction to 8,802 men as specialists and experts for various government services, particularly for aviation and the merchant marine. To house the many special courses, some 22 temporary buildings were erected at a cost to the Institute of \$550,929. The buildings included barracks, mess hall, armory, hospital, hangar, laboratories, administration center, and even a recreation center and a bandstand. It took this present war to get rid of the hangar, the last of these temporary structures. This special training program,

carried out with distinction under great pressure and in the absence of any well-planned national program, was the most significant contribution made on the M.I.T. premises to the war effort. Among those prominent in the execution of it, who are with us on our staff today, are Prescott, Breed, Hunsaker, Fales, MacKinnon, Ford, Hamilton, Taft, Owen, Cowdrey, Peabody, Howard, Jones, and Riley. Doubtless there are others whose names I missed in the Record.

The record of research is rather obscure, presumably because of the confidential nature of the work undertaken. It seems clear from the Record that the fine facilities of the Institute in its new home were not used so intensively as President Maclaurin had hoped. . . . In undergraduate education much confusion arose from lack of any clear national policy and frequent changes in governmental regulations. The Record states that, "the Institute was prepared to utilize its staff and its equipment in the Nation's service, but difficulty was experienced in adapting the undergraduate curriculum to wartime conditions. . . ." Altogether, however, the undergraduate program in the last war is remembered as a nightmare by those who participated in it. The only ray of encouragement that I find in the Record is the phrase, "The unit at the Institute fared rather better than the average."

The Record points out that the greatest contribution made by Technology during the last war was through the services of its Alumni. When we remember that the total alumni body at that time was only about half its present size, the following figures from the Record are certainly significant. At least 4,897 Alumni were members of the United States Army, Navy, or Marine Corps, while 79 others served in the military or naval forces of the Allies. Of this number, 51 per cent were commissioned officers. Altogether, 7,000 Alumni were directly employed in war service, and in addition to these it is estimated that more than 80 per cent of the remainder, who were not in some special government service, were engaged in work of a nature essential to the war effort. . . .

Several personal items I cannot refrain from mentioning. One of these is the fact that Professor Samuel C. Prescott, '94, was serving the Quartermaster Corps 25 years ago, just as he is today. Also, Professor Jerome C. Hunsaker, '12, who 25 years ago had established the first school of aeronautical engineering in the United States and trained approximately half of the nation's aeronautical engineers of that time, is today the chairman of the National Advisory Committee for Aeronautics, top civilian position in this most important phase of the war effort. Likewise, I read in the Record that a distinguished Alumnus, George Ellery Hale, '90, carried the story of preparedness among the scientists of the country and secured, by executive order of President Wilson, the establishment of the National Research Council, an organization for national defense under the jurisdiction of the National Academy of Sciences. And in this war the civilian scientific effort of this country is headed by our former Vice-President and Dean of Engineering, Vannevar Bush, '16, who is director of the Office of Scientific Research and Development, operating under executive order of the President. A former President of our Alumni Association, Frank B. Jewett, '03, is now president of the National Academy of Sciences. And our superfine Treasurer, Horace Ford, is today managing the erection of new Institute buildings for the accommodation of war activities just as, 25 years ago, he had charge of the erection of the temporary war buildings of that era.

Notable activities of 1917, as yet without a counterpart in this war, were the Massachusetts Institute of Technology Committee for National Service and the women's War Service Auxiliary, headed respectively by James Phinney Munroe, '82, and Mrs. Edward Cunningham. Also notable was the M.I.T. Military Training Camp at East Machias, Maine, named Camp Cunningham in honor of Edward Cunningham, '91. . . .



M.I.T. Photo

Oliver P. Echols, major general, United States Army Air Corps, Alumni Day banquet speaker

Thus we see that history repeats itself in that M.I.T. men are again occupying positions of leadership in the technological aspects of the nation in wartime. Not only in the work of individuals does history repeat itself but also in the basic organization of the Institute's war effort, as I shall explain.

The special training of technical experts has been formulated and administered most effectively in this war through the Engineering, Science and Management Defense Training Program of the Office of Education. It was organized by one of our Alumni, A. A. Potter, '03, dean of engineering at Purdue University, ably assisted by a younger Alumnus, Allen W. Horton, Jr., '36. Our own Dean of Engineering, Edward L. Moreland, '07, has been in charge of the operation of this program in New England. The Institute has co-operated with the other engineering colleges of the metropolitan Boston district in providing a well-balanced and well-divided program to meet the most urgent requirements for technically trained men.

Since March, 150 meteorologists have assembled for special training, and the largest of all the programs on practical applications of ultrahigh-frequency radio techniques has been inaugurated. This course will be given during the next 12 months to approximately 2,200 ensigns and second lieutenants from the armed forces. They will arrive in groups of about 200 a month, each staying for three months. The navy contingent in this group will have had elementary training at Bowdoin College and at Harvard University before coming to Technolology for the more advanced program.

I cannot speak in too high praise and appreciation of the very able manner in which this special E.S.M.D.T. Program has been conducted at the Institute. A great many members of the staff have co-operated wholeheartedly, adding this extra teaching burden to an already crowded schedule. The direction of the program has been particularly well handled by a committee headed by Raymond D. Douglass, '31,

Professor of Mathematics, as chairman, and Arthur L. Townsend, '13, Associate Professor of Mechanical Engineering, as secretary, and including Joseph C. MacKinnon, '13, Institute Registrar; F. Leroy Foster, '25, assistant to the Director of the Division of Industrial Coöperation; and Robert M. Kimball, '33, Assistant Director of Admissions.

With the increasing scope and tempo of scientific applications in technology during the past 25 years, it is not surprising that the research aspect of the Institute's war activities looms relatively more importantly than it did 25 years ago. At that time the Record stated: "Research work connected with war problems was carried on in the laboratories of the Institute, and President Maclaurin is authority for the statement that at least one discovery of importance resulted from these investigations." In the present war, we can already say that not one but many developments of importance have come from the research work carried on in our laboratories. We can say that equipment built in our laboratories has already been used in successful operations against the enemy here and abroad. We can certainly say that some of these developments are given highest priority and are being procured in large quantities by the armed services.

Let me mention first the research laboratory of the Chemical Warfare Service. This whole operation is particularly gratifying because it exhibits an alertness on the part of our M.I.T. Corporation and Faculty and also on the part of the Chemical Warfare Service. The laboratory is now operating very actively and, I am told, successfully under the direction of a brilliant young chemical engineer officer, Jacquard H. Rothschild, '40, major, Chemical Warfare Service.

Most of the remaining M.I.T. war research activity is handled by contracts between the Institute and outside agencies administered through our Division of Industrial Coöperation. I think you will be surprised at the magnitude of this aspect of our work. There are at the present time a total of 88 such contracts. Of these, 33 are with the Office of Scientific Research and Development, 7 are with the Army, 4 with the Navy, 11 with the National Advisory Committee for Aeronautics, and 33 with industrial companies. The aggregate sum involved in these 88 contracts for the current academic year was \$5,932,582. That the aggregate size of such contracts will be considerably greater next year is already clear. The provision of space and the recruitment of staff to handle these research projects have been no small task. . . .

Much more than in the last war it is now generally realized that the continual supply of technically trained young men and women from our educational institutions must not be cut off in the early stages of the war emergency. Perhaps if we knew certainly that the crisis of the war would be passed in 12 months or 18 months, it would be legitimate to call out from our educational institutions and everywhere else all the available power to be put into this mighty effort. We have no assurance, however, that victory will come that quickly, and, consequently, to cut off now the training programs which can most efficiently continue to feed technical talent to our industries and armed forces would be a very shortsighted policy. Thus far, the Selective Service program has been administered from Washington and by the local boards in a manner which has given good recognition to the importance of advanced technological training and which has been considerate in the matter of permitting college students already enrolled to complete their current academic terms. Furthermore, the advice which has gone out to the local boards from the Washington office has continually emphasized the importance to our national effort of technically trained personnel, and all of the scientific and engineering aspects of the Institute's curriculum have been included in the category for which special provision has been made to permit wellqualified, regularly enrolled students to continue their work.

Coming more specifically now to our situation at Technology, the first significant point is that our educational program has thus far continued without substantial change or complication. We have speeded up the senior year by shortening the intermediate vacation and somewhat concentrating the work. From now on, the contemplated program is a sort of minimized speed-up, in which the freshman, sophomore, and junior years carry on as usual but in which the senior class begins its study almost immediately after finishing its junior year and carries on through the summer, fall, and winter terms in order to be graduated early in February. Accompanying this program is the arrangement whereby every undergraduate is expected to spend his summer vacation either in attendance upon a regular educational program or else in some work considered essential to the national war effort. Thus far, reports indicate that all of our eligible students should experience no difficulty in finding summer employment. . . .

The story would not be complete without mention of the extraordinary variety and interest of some of the work which is being performed by members of the staff outside the main categories of instruction and research. Several members of our staff are serving in important assignments in England and at Pearl Harbor. Quite a number have gone into active service as commissioned officers in the Army or the Navy Reserve. Typical of these are Clark S. Robinson, '09, Associate Professor of Chemical Engineering, a major in the Chemical Warfare Service, and Ralph D. Bennett, Professor of Electrical Measurements, a commander in charge of a research laboratory of the Bureau of Ordnance in the Navy. Edward L. Bowles, '22, Professor of Electrical Communications, recently became a special consultant to the Secretary of War. Robert G. Caldwell, Dean of Humanities, is continuing as an adviser to the State Department in the field of Spanish-American affairs. Walter G. Whitman, '17, Professor of Chemical Engineering, has taken over a large portion of the chemical affairs of the War Production Board. Douglass V. Brown, Associate Professor of Industrial Relations, is enjoying a well-earned rest from active duty since his return from a mission to Moscow. I hesitate to mention even these men because there are so many others who cannot be named through lack of time, but I think it is fair to say that our organization is working effectively and energetically, with a very fine spirit and with a division of labor which permits some to take the more spectacular jobs while others fill those which are less exciting but equally essential in making up an entire co-ordinated war effort.

When the whole story of the Institute's contribution to the war effort is told, it will undoubtedly show, as in 1920, that by far the greatest aggregate of contributions came through the activities of its Alumni. About these I am not now in a position to speak. The Alumni Association has only recently begun the maintenance of systematic records of war service by its members, and probably anything like a complete coverage of these activities will be impossible until the whole affair is over. It is important, however, that this record be kept. I would be speak of all Alumni their co-operation with the Alumni Office in keeping it informed of the individual activities which, taken together, constitute Technology's role in this emergency.

I trust that this recital of M.I.T. and the war may have left you reassured that sincere efforts are being made to uphold Technology's tradition for national service. I realize that this recital has not been scintillating with wit and conviviality. It could scarcely be so, for the war is a grim business and we have settled down to do an unwanted job as efficiently as we know how. Our enthusiasm is not for the war or for these related war activities as such, but it is for the principles of freedom, fair play, and human justice (Continued on page 410)

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[ABRASIVE PAPER AND CLOTH]

BUILDING AIR POWER

(Continued from page 368)

Prior to the country's entry into the war, much progress had been made toward the conversion of the automobile industry to a war effort. In the aircraft field, General Motors Corporation was building aircraft engines, propellers, bomber parts, and many accessories; Packard had started the production of aircraft engines; Chrysler, Goodyear, and Hudson were building bomber parts; Nash was building propellers; Willys-Overland was making aircraft forgings; Murray and Briggs body companies were turning out bomber wings and gun turrets; Ford was producing aircraft engines, and its great bomber plant at Willow Run was almost ready to start production. With this experience already behind them, the discontinuing of automobile production and the conversion to the all-out effort called for as a result of the war were made without delay. To anyone who has followed this great transformation from day to day, it is apparent that the American industry can produce, and soon will be producing, airplanes to the limit of the available raw materials.

The co-operative spirit with which both the aircraft manufacturers and the automobile industry have attacked the problem of all-out aircraft production is exemplified by the joint projects undertaken by the various groups of manufacturers who are pooling their engineering skill and production facilities with the view of accelerating the mass production of bombers. The Vega, Boeing, and Douglas companies are building

Boeing Flying Fortresses; the Consolidated Aircraft Corporation and the Douglas and Ford companies are building Consolidated B-24's; the Chrysler Corporation and the Goodyear, Hudson, and Martin companies are building Martin B-26 medium bombers; the General Motors and North American corporations are building the North American B-25 medium bombers; and other important co-operative projects are in the making.

Of especial interest is the present status of aircraftengine production. At the beginning of the emergency say about June, 1940, shortly after the President issued his dramatic call for 50,000 airplanes — the feeling was general that aircraft engines in the higher-horsepower bracket required for our latest combat planes would prove to be a very real bottleneck. Although plant tooling for this type of engine is a very complicated and expensive process, the American aircraft industry, with notable contributions from the automobile industry, has done an exceptionally fine job, so that fears of a shortage in high-powered engines have been allayed. For example, by January, 1941, the total United States aircraft engine output was nearly double the June, 1940, figure. With the added plant capacity made available during the year, the output was more than doubled again by November, far ahead of the schedule set by the Office of Production Management. Our sights have been raised again since our active participation in the war. The fact that the figure for last March was 68 per cent ahead of that for the end of 1941 is indicative of the astonishing progress that is being made.

(Continued on page 384)

To Young Engineers Who Have Moved Up Front

Your CHIEF is a busy man these days. New Plans — New Plants — Trips to Washington — Conferences — Priorities. His years of experience, that made tough jobs easy, are now needed for the tougher jobs that add up to winning the war.

Yours is the job of getting things done. The engineering for plant expansion and conversion is your responsibility. Your problems are many. Among them are the special applications of psychrometrics—temperatures, humidities, atmospheric pressures. You may have to set up sub-stratospheric tests and low temperature research equipment. Perhaps you will need oil cooling, rivet cooling, or refrigeration. You might require the air conditioning and ventilation of blackout plants, gauge rooms or assembly rooms.

The years of experience of the men of our organization are available to you, just as they were to the Chief. Tell us what you need, and, by combining ingenuity with engineering, we shall see that you get it.

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One of the discoveries in this field is an amazing series of synthetic plastics—"Vinylite" resins.

In one form or another, these astounding materials appear in such diverse essentials as food-can linings... and tank-car linings; as airplane cockpit covers... and non-flammable insulation for vital electrical wiring; as corrosion-resistant wrappings for cross-continental pipe lines... and welders' goggles; as the thin film on paper which is put inside bottle caps... and as the invisible interlayer in the sandwich of safety glass.

"Vinylite" resins can be formed, drawn, laminated, and bonded. In basic form, they are odorless, tasteless, and non-toxic, and range from non-flammable to slow-burning. They can be made stiff or flexible . . . hard or soft . . . colorless or almost any color under the sun . . . transparent, translucent, or opaque. And the result is resistant to oxidation . . . waterproof . . . alcohol-, alkali-, and acid-resistant.

These unusual properties have created a heavy demand for "Vinylite"

resins, particularly to meet defense needs. This is why it is not possible, at present, to supply all manufacturers of articles for personal and home use with all the "Vinylite" resins needed. Against the return of more normal times, when larger quantities for normal uses will again be available, manufacturers are invited to test these new plastics . . . to develop new and improved things to be made from them . . . so that all can benefit from the discovery of "Vinylite" resins.

"Vinylite" resins and plastics are supplemented by the well-known products of Bakelite Corporation. The resins themselves are produced by Carbide and Carbon Chemicals Corporation. Certain elastic sheetings and films are made from these resins and marketed by National Carbon Company, Inc., under the trade-mark "Krene," while other compounded forms useful in electrical insulation are marketed by Halowax Corporation. The manufacture of all these products has been greatly facilitated by the metallurgical experience of Electro Metallurgical Company and Haynes Stellite Company and by the metal-fabricating knowledge of The Linde Air Products Company. All of these companies are Units of Union Carbide and Carbon Corporation.

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New York, N. Y.

Producers of Synthetic Organic Chemicals

BUILDING AIR POWER

(Continued from page 382)

America's two major producers of air-cooled engines Wright Aeronautical, and Pratt and Whitney-have expanded their own facilities, and their engines in the 1,200- to 2,000-horsepower class are being turned out in new plants by Ford, Buick, Chevrolet, and Studebaker. Allison is in full quantity production of its V-type liquid-cooled units for some of the country's fastest fighter planes; while attaining mass production, it has also been able to step up the horsepower per unit. Packard is now in good production on the liquid-cooled Rolls-Royce Merlin, power plant of the famous Spitfire and Hurricane fighters of the Royal Air Force. This is being used in the latest model of the Curtiss fighter, the P-40F, with good results. The Allison and the Merlin are both in the 1,200-horsepower class, similar to the German Daimler-Benz 601. Our most powerful aircooled radial engines, however, are now in the 2,000horsepower category and better, and are the mightiest and most reliable aircraft engines in quantity produc-

In order to understand some of the many problems with which those charged with the Air Corps program are faced, one must realize that the aircraft manufacturer does not produce the complete airplane. He designs the plane, based on military requirements and type specifications supplied him by the Air Corps, and he manufactures a large part of the airframe. But the engines, propellers, wheels, generators, a large part of

the electrical and all of the radio system, most of the armament equipment - including gun turrets and sights, automatic pilots, and bomb sights - turbosuperchargers, navigation equipment, and many of the instruments are furnished by the government. Designed to government specifications, they are purchased by the government and furnished to the manufacturer. In addition, a large amount of so-called vendor-furnished equipment is procured by the manufacturer from subcontractors. These supplies include hydraulic equipment, fuel installation, leakproof gas tanks, landinggear legs, fittings, and a large number of other small items of equipment. The equipment manufacturers in turn have their vendors; for example, the engine manufacturer purchases magnetos, carburetors, spark plugs, crankcases, and bearings. Another requirement, of course, is for the fabricated materials, such as aluminum forgings, castings, and extrusions, and there is also the problem of tools.

The aircraft manufacturer cannot undertake to provide himself with these supplies. He looks to the procuring agency of the government to plan the sources of supply and provide the materials in such a way that they flow into his shop and into his production line in time to meet his schedules. The facilities and know-how to manufacture many of these complicated items were almost nonexistent in the United States in 1940. The War Department had to spend well over a billion dollars either in new facilities or in retooling existing shops which manufacture the accessories necessary for the

(Continued on page 386)

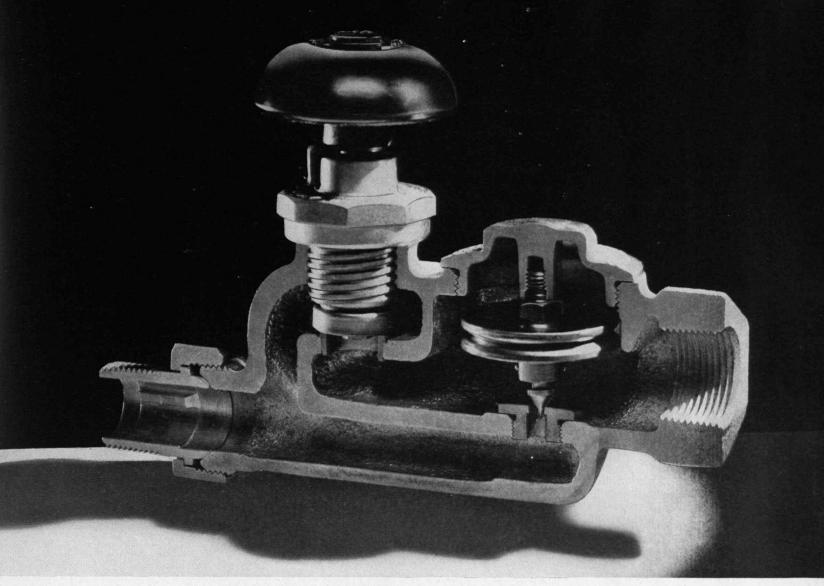
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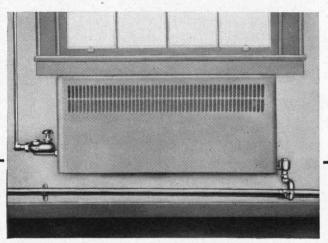
That is why keen-minded engineers have called for unprecedented quantities of this Webster device in connection with cantonments, military hospitals, ordnance plants and other war production plants of one-story construction.

The Webster Double-Service Valve fits splendidly wherever there is a downfeed supply to a direct radiator or convector.

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View shows downfeed supply riser, Webster Double-Service Valve, convector radiator and Webster Radiator Trap as installed in a U. S. Army Air Corps Hospital.



BUILDING AIR POWER

(Continued from page 384)

aircraft program, the Army's share of which will involve the expenditure of approximately twenty-five billion dollars within two years from September, 1940. When it is realized that in these circumstances the responsibility of the government procuring agencies is to have materials and equipment flowing into the production lines of the shops of the increasingly proficient aircraft manufacturers at a rate greatly in excess of any schedules that they, in their most optimistic estimates, had even believed approachable, then some appreciation is possible of the task involved.

It is unfortunate that we have no better measure for aircraft production than the numbers produced during a given period, because the size and quality of aircraft are an extremely important part of the productive effort. In view of the public clamor for large numbers of airplanes each month, a good deal of fortitude is required not to take the line of least resistance and produce enormous quantities of small fighters and light bombers. We have undertaken a very large output of long-range heavy bombers. The President's program, as it now stands, calls for 60,000 tons of aircraft a month.

The statement is often heard that this is a war of production — that production will win the war. This war cannot, of course, be won without the production of airplanes in hitherto unheard-of quantities, but large quantities of planes will count for little unless they are based on superior designs, are properly equipped with

the most modern armament and navigation devices, and are manned by highly skilled combat crews. Furthermore, they are useless unless they can be transported to the combat zone at the proper time and are amply supplied while engaged in combat.

For 1942, we were planning training programs for 30,000 pilots and 100,000 mechanics a year, but now these rates are being greatly increased as fast as facilities become available. The instruction of the pilot and the mechanic is, however, only a small part of the training problem. Pilots, navigators, bombardiers, radio operators, gunners, and mechanics are trained as specialists, not as combat units. The organizational training which is necessary to make combat organizations — that is, the operational training of the combat crews in the squadrons and the groups — is a long and tedious process and is just as essential in an air force as are the many months required to prepare the infantry divisions of the Ground Forces for combat. The layman often has the impression that a new pilot out of a flying school takes a new airplane out of the factory and goes to war. This is the surest way to defeat. It is the combat organization, with its training as a team, which will win battles.

The new, streamline organization of the War Department provides a General Staff and three commands — Ground Forces, Air Forces, and Services of Supply. Henry H. Arnold is commanding general of the Army Air Forces, which consist of a staff for plans and policy, a special group of officers for directing operations, and the various commands of the Air Forces. The chief com-

(Continued on page 388)

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The rope business became very unusual on December 7th, when shipments of Manila fiber suddenly stopped. It kept getting more and more unusual as the Japs moved into the East Indies, prime source of sisalana fiber. Our two-ocean Navy, our Army, our war production-need rope as never before.

It's up to you to save rope. You yourself may never handle a piece of rope-still you can save it by asking your workers to make rope last longer through proper care.

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urge workers to use it as a guide ... if distributors, dealers, and salesmen pass it on to their customers.

This is no time to sell rope, or use rope, as usual. Write for your FREE rope conservation material today to Plymouth Cordage Company, North Plymouth, Massachusetts, or Welland, Ontario.

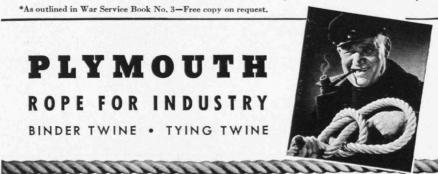
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Manila rope is restricted to war use only. Plymouth "Wartime" Rope is made of best available fibers, for civilian needs. Except for a few very special uses,*Plymouth "Wartime" Rope will serve satisfactorily.

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BUILDING AIR POWER

(Continued from page 386)

mands are the flying training command, which trains air crews; the ground training command, which trains mechanics and technicians; the air service command, which is charged with the storage and issue of supplies and the maintenance of equipment in the service; the ferry command, which delivers airplanes by air from the factory to the tactical units either in the United States or overseas; the operational training command, which trains combat units; the combat air forces, or task forces, which are self-contained combat units for duty in this country or overseas; and the matériel command.

The matériel command is of special interest. It is charged with research and with development, procurement, and production of all aeronautical equipment for the Air Forces. The headquarters of the command are in Washington, but its principal activity is the Matériel Center at Wright Field, Dayton, Ohio. The experimental laboratories, the production and contract sections, the industrial planning section, and the flight test section are located there. This command, with its field agencies, is the organization responsible for carrying out the Army's share of the President's aircraft production program.

One of the most important jobs of the materiel command is to insure that our airplanes fly faster and higher, are more heavily armored, carry greater fire

power, are more maneuverable, have longer range, and have greater bomb- and troop-carrying capacity than those of the enemy. At the Matériel Center at Wright Field, 76 graduates of M.I.T. — 23 as civilian engineers and 53 as Air Corps officers — have been working for many months, some of them for many years, to keep America's airplanes in condition to fight it out with any of the enemy's best planes.

This is a technical war, a war of new machines. If we slacken our experimental work, we will fail to maintain superior warplanes and our pilots will lose the battle. The demand is for more and more trained engineers in the government service and in industry. Because of the small number of Air Corps engineers and because the very limited engineering staffs of the aircraft industry are devoting so much of their time to production problems, development work on new aircraft designs, engines, propellers, superchargers, armament, and accessory equipment is likely to lag unless the engineers and scientists of the United States accept the same responsibility for aeronautical development that American industry has accepted for production.

Our goal is not an easy one to attain: one hundred and forty-seven thousand airplanes to be produced for the Army Air Corps in two years, 70,000 pilots a year to be trained, and a 2,000,000-man air force. Such figures would have been considered fantastic a few months ago. Are we going to reach this goal? I see no reason to be discouraged. The training program is making splendid

(Concluded on page 390)

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SOME WAR PRODUCTS of CHRYSLER CORPORATION



BUILDING AIR POWER

(Concluded from page 388)

progress, and the great manufacturing plants which have been in process of construction and tooling up are beginning to roll. America's combat aircraft, the finest in the world, are coming in considerable numbers. We are now producing more aircraft than any other nation, and each month sees an ever increasing number.

At present we are on the defensive and must try to hold such bases as we can until we have the air power to pass to the offensive and recapture lost ground, step by step. With our large fleet of powerful, heavy bombers and fighters, we shall be able to attack Germany and Japan and establish that dominant air superiority which is necessary to permit our ground and naval forces to operate against the enemy. The initiative which has been held by the Axis nations, as a result of their carefully planned aggression, will be lost as soon as the United Nations establish air superiority in Europe. Once the Axis is on the defensive, its defeat is certain.

BEYOND VICTORY

(Continued from page 370)

In short, we must always be as strong and eager to maintain anything that we value as we were strong and eager to win it in the first place. This is a general law of life. It applies to holding the love of a wife after you have won it, to living a life of high ideals after you have discovered them, to maintaining your professional skill after you have gained it, to keeping money after you have earned it; it applies to our freedom, won by centuries of human struggle and self-discipline, for if we are not ever alert and strong to keep it, freedom can be lost very rapidly — by sudden disaster or by insidious encroachments; it will apply to whatever form of improved world order emerges from the present struggle.

We have learned that peace is a pearl of great price, which costs much to win and much to maintain. We have learned that we may sometimes have to maintain peace by force. Just as we acknowledge that police power is needed to maintain peace and security in a city against the fringe of thugs and gangsters who would substitute terrorism if allowed to operate unopposed, so we have learned in international affairs that failure to exert an ounce of forcible prevention can lead to need for many pounds of terrible cure. For example, had the peaceloving nations possessed an adequate police force and had they used it vigorously when Japan invaded Manchukuo or when Italy invaded Ethiopia or when Hitler marched into the Rhineland, then almost certainly this world catastrophe could have been avoided. Had the peace-loving nations joined sternly to put a stop to Germany and Japan's intensive warlike preparations before they became too strong to stop, we should have been spared another World War.

I hope we have learned that certain things are worth fighting for — things like freedom, the right to live in peace, the integrity of home and country. In the re-

(Continued on page 392)

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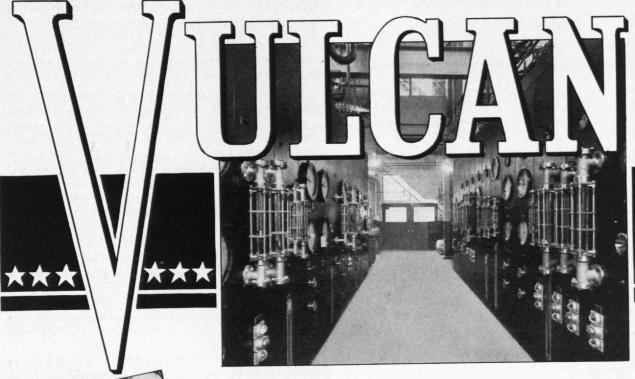
THE PRODUCTO MACHINE COMPANY

Bridgeport

Connecticut

Branch Office: Detroit, Michigan

N. M. Marsilius '17



HE Vulcan organization is proud of the service which it is rendering during the current National Emergency. Production of specialized equipment for Distillation, Evaporation and Extraction processes is at a higher level than at any preceding period of the company's history — thanks to a unified and intensified organizational effort and expanded plant facilities.

We pledge, to all whom we serve, that we will continue unrelentingly in our effort to further increase our output until the Battle of Production is won.

·DISTILLATION · EVAPORATION · ESTRACTION







BEYOND VICTORY

(Continued from page 390)

action from the last war, some people went as far as to hold that nothing could justify fighting and sought to pledge young men under no conditions to go to war. I believed then, and believe now, that this attitude was a mistake, perhaps a tragic one, however laudable its motives. For it is clear that a man will fight, if necessary, to protect his family; that a city will exercise police power, if necessary, to enforce law and security; that a nation will go to war, if necessary, to preserve its freedom and the security of its citizens. When peace is again established, I hope we shall have learned from the past 20 years that, when any nation invades another's boundaries, it is far better for the peace-loving nations to go promptly together on the warpath and force the aggressor nation to withdraw, than to refuse to face the unpleasant issue and let such situations grow and multiply into a major catastrophe.

Thus, appraising the last 25 years scientifically and considering this period as a vast experiment, or experience, in world living, we have drawn the following

Democracies can win.

Relative military unpreparedness is costly and dangerous.

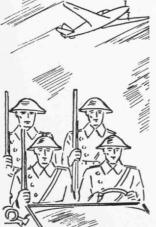
We must be willing to do our share in world administration and in co-operative enforcement of peace.

We must be as alert and vigorous to maintain peace and freedom and to make democracy work, as we have been to secure them.

If we have learned lessons like these, then I do not believe that the last 25 years have been years of failure, or that we have any right to be cynical over the recurrence of war or to lose the urge of idealism and hope, which are the qualities that make life worth living. What we must do is to try again — first to win this war and thus preserve our freedom from violent attack, then to organize a world peace that will permit us and all other nations to work out our own destinies as we wish and without molestation, and finally, and all the time, to deal so uprightly and unselfishly with our fellows, be they persons or be they nations, that intercourse may always be a stimulus of good satisfaction and not an irritant of antagonism.

There is one more personal lesson which you can draw for your comfort from the experience of those who 25 years ago, like you today, were the first to be graduated into our nation at war. Some of you have felt that the war will wreck the careers for which you have so arduously and hopefully prepared yourselves, that your training will be wasted and your ambitions dashed. (Concluded on page 394)





these things have contributed to making them a natural part of the planes, the tanks, the ships, the communications equipment, etc., with which America fights.

Here at Auburn we like to feel that in our sixty-six years of plastic molding we have contributed something to this present acceptance of a new war material We know that our pioneering has opened the way to many new applications for molded plastics. Auburn molded parts are in use in tanks, airplanes, in army autos and trucks, electrical insulation parts for communication systems in the Signal Corps, Bureau of Ships, etc.

Right now, we are all out for America . . . and that's the way it's going to be . . . until the final blow has been struck at our foes

If we can help America's victory program by helping you on your war orders . . . LET'S GET TOGETHER

MOLDED PLASTICS DIVISION

AUBURN

AUBURN, NEW YORK





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The schools of Architecture, Engineering and Science, the Graduate School and the Division of Humanities offer instruction and opportunities for research, both undergraduate and graduate, in the following fields of study as well as in allied subjects:

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Chemical Engineering
Civil and Sanitary Engineering
Electrical Engineering
General Engineering
Marine Transportation
Mechanical Engineering
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The Catalogue contains full information and will be sent gratis and post free upon request. All correspondence regarding admission either to undergraduate or graduate study should be addressed to the Director of Admissions, M.I.T., Cambridge, Mass.

HYGRADE SYLVANIA PRODUCTS

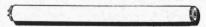
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Hygrade Sylvania Corporation makes a variety of products valuable in peace and indispensable in war.



RADIO TUBES. For peace time enjoyment: and as eyes and ears for the armed forces in war.



FLUORESCENT LAMPS. The brilliant new lighting source that is making possible 24-hour daylight brightness in our war industries. Hygrade Sylvania is a pioneer in fluorescent.



FLUORESCENT LIGHTING FIXTURES, which permit fluorescent lamps to produce at their maximum efficiency. To us, Fluorescent means a complete factory assembly of fixtures, lamps, sockets and starters, fabricated by one manufacturer, supplied as a unit and covered by one guarantee.



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INCANDESCENT LAMPS. Ranging from the common types for ordinary use to the rugged types that defy battleship shocks.

AMONG OTHER PRODUCTS is a luminescent pigment for paint, which causes the painted surface to glow for several hours after it has been exposed to light for even a few seconds. Hygrade Sylvania is also devoting its extensive engineering and manufacturing facilities to many articles for government use, which naturally cannot be specified.

EIGHT FACTORIES in Massachusetts and Pennsylvania, with a ninth nearing completion.

TRIBUTE TO TECH. The delicate character of our work calls for engineering ability of the highest order. So Hygrade Sylvania acknowledges its debt to Tech for the large number of brilliant Tech men who occupy positions of responsibility in all of its factories.

HYGRADE SYLVANIA CORPORATION

General Corporate Office, Salem, Mass.

BEYOND VICTORY

(Concluded from page 392)

The experience of the Class of 1917 does not support any such pessimistic outlook. Personally and professionally that Class, as a group, has fared like any other class. The war did interrupt many a plan for the time being, but even the war experience furnished its full quota of opportunity for maturement, for development of self-discipline, self-confidence, and, frequently, even increased professional skill. Do not, therefore, feel that this episode has thwarted your hopes and ambitions. Only if we should lose the war, will your future be seriously jeopardized; hence all the more reason for pitching in to win it.

Though we recognize that danger and difficulty confront you as you leave this institution to take your place in the great struggle for a better life, we are thankful that you and we can do this job together while the hopes of 25 years ago are still alive and the lessons drawn from recent failures are still fresh. Trained in the scientific method, we should not repeat old failures but benefit by former experience to make the present effort more successful. So it is with courage that you go forth and it is with faith that we bid you Godspeed.

PROSPECTS AND RETROSPECTS

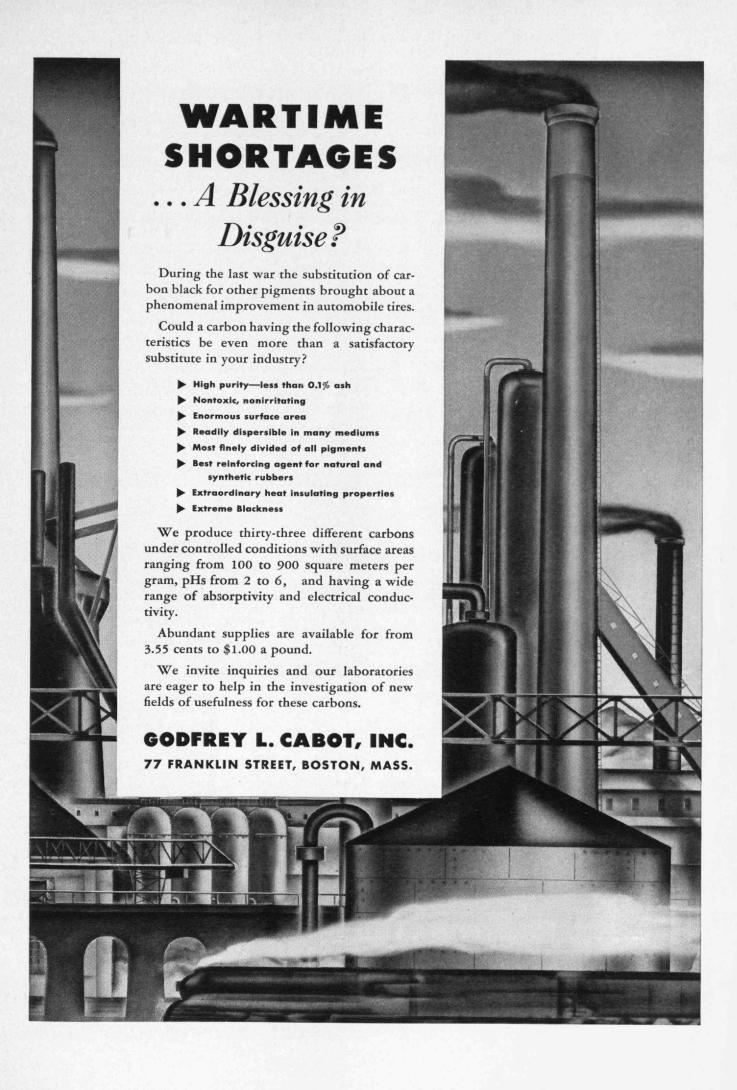
(Continued from page 372)

bring, and chance, while ordinarily regarded as a fickle and uncertain thing, opens doors of opportunity far more frequently than we might expect. As a result, many graduates do not follow strictly the field in which they begin professional work. Ability to recognize and grasp fearlessly the unexpected and unusual opportunity if and when it arises, to "strike while the iron is hot," as we say, and convert such a chance happening into a vital part of a real career is an evidence of ability to do sound thinking and to make decisions quickly and wisely.

As to the immediate future, we understand that some of you may feel that your careers in your hoped-for work in science or engineering have been suddenly nipped in the bud by the demands of war. Seemingly perhaps cherished plans and ambitions are thwarted and must be abandoned. The future may appear dark and beclouded when it should be sunny and full of promise. I hope I can convince you that this need not be so. On the contrary, if your vision is not too myopic, and if your faith in your country and yourself is deep and strong, you will some day resume your chosen professional activities. Many months, possibly years, may pass before our national life is again what we call normal, but I cannot conceive that we are so weak willed or lacking in spiritual resources that we shall not again irresistibly return to peace and the American way of life.

At all stages in adult life we have our prospects and our retrospects, but the former are essentially the prerogatives of the first half of a man's life, while the retrospects and memories become increasingly a part of the stock pile in the mental storehouse of advanced life. Unfortunately, these memories may become distorted,

(Continued on page 396)



PROSPECTS AND RETROSPECTS

(Continued from page 394)

and sometimes interfere with and impair the elderly man's view of the future which should be all the more clear because of his long experience and knowledge of the trend of past events.

Fortunately, therefore, in the marching column of human life that tramps on ceaselessly and inexorably, new battalions of young men like yourselves — idealistic, courageous, and vigorous - constantly pour in to replace those who fall out of the lines. Clear-thinking new leaders, virile and endowed with high ideals and broad concepts of human service, replace those to whom the years have brought not only age and diminishing strength but often ultraconservatism and a static point of view. There will still be much useful work which the man in vigorous old age can do, but the relatively young man who approaches the future with a high sense of patriotic service, human justice, and social consciousness as well as with superior technical armaments will destroy the self-appointed dictators and their evil works. Men of your type can, if they will, do much to improve the standards of civic and national life and save their country and its cherished traditions. If this ideal of professional service is the high prospect for which you will strive, your later retrospections will be repaying indeed.

In an address, presumably to young men, Longfellow once said: "Look not mournfully into the Past. It comes not back again. Wisely improve the Present. It is thine. Go forth to meet the shadowy Future, without fear, and with a manly heart." I can heartily recommend this advice to you, especially in these days when the blight of war is upon us. On the other hand, I would not debar those pleasant memories of youth and of student days, with hard work and happy associations, which will mean much to you as you travel the pathway of life. One might recall a line of Dante: "For oft a retrospect delights the mind." Despite the fact that youth comes not back again, if he is willing, one may learn something from his missteps and errors as well as from his successes. Thus he gains a surer attitude toward what Matthew Arnold called the conduct of life.

I have reiterated the idea that what you now plan to do with your professional training and your individuality will promote accomplishment, although you cannot completely forecast the future and must meet contingencies as they arise. But there are other nonprofessional aspects of living which will demand a place in your prospectus — your social and civic obligations, and the special interests you may cultivate as a means of self-expression or as a relaxation from the exacting duties of professional life. I have great pity for the man who retires from active life or who approaches my own age without having developed some special avocation or who has failed to find an interest in a hobby.

Among the obligations which should surely command your consideration are your duties as citizens, and your responsibilities and loyalty in deed as well as word to the (Continued on page 398)

PILOT PACKING CO., INC.

Executive Offices: 1 Water Street, New York, N. Y.



Factory: Sea Cliff, Nassau County, Long Island, New York

Manufacturers of GENUINE "V" Pilot Semi-Metallic Packings



For Worthington Feedwater Heater "Gladiator" Gaskets, Sheet, and Rod Packings
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For 81/2" and 11" Westinghouse Air Pump

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(Incorporated in 1894)

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Branches: Boston, Philadelphia, Baltimore, Norfolk, Chicago

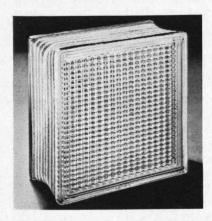
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OFFICERS:

H. S. Fitz Gibbon President L. J. Fitz Gibbon, '35 Vice-President C. S. Fitz Gibbon Treasurer H. S. Fitz Gibbon, Jr.'39 Manager of Boston Office

INSULUX Glass Block is In the Service of War Production



Westinghouse Building, Atlanta, Georgia Robert and Company, Inc. Architects and Engineers, Atlanta Rust Engineering Co., Contractors, Birmingham



The new INSULUX Prismatic Block which bends incoming daylight to the ceiling. Since a high percentage of light is then reflected downward, this means even lighting for deep interiors. INSULUX is carried in various sizes and designs by authorized distributors in principal cities.

Owens-Illinois INSULUX Glass Block is a functional light-transmitting material with special characteristics that recommend its use in wartime building. It is finding wide application today in construction of new war plants and in window replacement for existing plants.

A hollow, partially evacuated and hermetically sealed block of waterclear glass, INSULUX transmits daylight, diffuses it and even directs it. Panels of translucent INSULUX Glass Block maintain privacy for war work—keep prowlers from looking in. However, transparent block is available when limited vision is desired.

Because of its high insulating value, INSULUX saves power used in air conditioning and fuel used in heating.

It can be installed in small panels with no metal, in large ones with little metal, thus conserving scarce materials for implements of war.

Like all building materials, INSULUX is sold only in accordance with government building regulations. Our job is to manufacture INSULUX in sufficient volume to meet industry's demand for war construction, window replacement and maintenance purposes—to recommend its use only where it will contribute to more efficient production.

Owens-Illinois Glass Company, INSULUX Products Division, Toledo, Ohio.



For more information, write for the new INSULUX Booklet, "Alternate Construction Details," which shows how to install INSULUX with little or no metal. Covers both new construction and replacement.

C. H. REED '20

W. G. LOESCH '21 President, Forbes Varnish Co. Vice Pres., Forbes Varnish Co.

Serving Jhose Who Serve

UR laboratory and research departments have compiled a group of Technical Bulletins which are authoritative and accurate as to government specifications on war finishes.

You may have any one, or all of these bulletins by simply writing to THE FORBES VARNISH

70-A Crank Case Sealers.

80 Machinery Lacquer System.

81 Synco-Clear Baking Primer 8357.

82 Nitrocellulose Lacquer Enamel for Ammunition — U. S. Army Spec. 3-162-A.

83 Zinc Chromate Primer, Navy Aeronautical Spec. P-27b-2.

84 Glyceryl Phthalate Aircraft Enamel — Navy Aeronautical Spec. E-5e.

85 Glyceryl Phthalate Black Enamel — Navy Aeronautical Spec.

86 Zinc Chromate Priming Paint Picatinny Arsenal
 PXS-783. Rev. 3.

87 Zinc Chromate Metal Primer
 — Army Air Corps Spec. 14080.

88 Black Out Paint No. 1.

89 Cellulose Nitrate Camouflage Lacquer — Army Air Corps Spec. 14105.

90 Quick Drying Camouflage Enamel — Army Air Corps Spec. 14109.

91 Synthetic Lt. Gray Baking Enamel (For Metal Bedsteads and Cots).

Quartermaster Corps Specification C.Q.M.D. No. 5 (sometimes referred to as "Exceptions in Specifications No. 32-2A and 32-7A").

92 Black Out Paint No. 2.

93 Synthetic Rust-Inhibiting Primer — Yellow Green (QMC-Tent. Spec. ES-359b).

94 Synthetic Lustreless Olive Drab Enamel (QMC Tent. Spec. ES-No. 474-C).

95 Synthetic Blue Drab Stenciling Enamel (QMC Tent. Spec. ES-No. 510b).

96 Paints for Ammunition, U.S. Army Specification 3-67C.

97 Acid Proof Black Paint for Ammunition, U. S. Army Spec. 3-106-E.

98-A Class 1 Rust-Inhibiting Primer; Class 4 Lustreless Olive Drab Enamel HQD ES No. 680 — Holabird Quartermaster Depot Tent. Specification Pro-tective Coating Materials — Synthetic Type.

98-D Class 5 Lustreless Blue Drab Enamel — HQD-ES-680 — Holabird Quartermaster De-pot Tent. Spec. Protective Coating Materials — Synthetic

98-E Class 20 Lustreless Coronado Tan Enamel including Undercoats, Lustreless Enamels and Stencil Colors, Gloss Enamels and Stencil Colors — Miscl. HQD ES No. 680 — Holabird Quartermaster Depot Tent. Spec. Protective Coating Materials — Synthetic Type.

99 Exterior Lacquers and Paints Used on Bombs and Projectiles Purchased by the Navy — Navy Ordnance Specification OS-1210, Navy Ordnance Pamphlet 368

100 Warm Drab Air-Drying Lacquer and Thinner — Chemi-cal Warfare Service Specification No. 196-131-59.

C-1a Warm Drab No. 21 Lacquer

C-1a (2) Lacquer Thinner

Optional and additional, which we can supply, but which are not listed in our Technical Bulletins ed in our Technical Bul war finish specifications

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3800 WEST 143rd

CLEVELAND, OHIO

W. R. McKenney '19

M. J. Gordon '22

PROSPECTS AND RETROSPECTS

(Continued from page 396)

institution which has already been so largely instrumental in bringing you to a point where you can profitably sell your own services. You can be useful to your fellow men. Obviously, as with all of us, your present duty is a national one, and your country's future as well as present need of you will doubtless be a part of your planned anticipations. As I see you today and appraise your sense of loyalty, I can well believe that you place this obligation above the pursuit of personal security or the immediate gratification of your individual aspirations. For a short time your service may be in the factory or in the fleet, in the training camp or in actual combat, in some crowded office with its myriad minute details of the mechanism of war or in some remote outpost where your special technical knowledge may save the lives of many men. William Havard, an eminent Englishman, in a period of grave danger to his country many decades ago declared,

Our country's welfare is our first concern, And who promotes that best, best proves his duty.

This is, I believe, the spirit that has ever dominated Technology from the days of its foundation, and you will carry on the tradition with courage and efficiency and honor. If we are to keep inviolate the ideals of life and liberty in which we have been nurtured, this spirit must prevail and permeate our whole country.

I have said that most of your life is in the future. According to insurance statistics, the men of your age group may expect approximately 50 years in which to pursue their chosen work. For this reason, therefore, I have been especially concerned with what lies before you, and the desirability of a general plan of action.

I shall now delve into my own retrospects covering a time period of similar length and see if I can summon from them anything which deals with comparable situations and which can offer you a historical basis for encouragement and hope. The Technology of 50 years ago was far different from the Institute of today though the same in its fundamental purpose — to train competent men of highest professional integrity. Small in numbers and resources, Technology resolutely met the challenge and the conditions of the period and with much selfsacrifice on the part of administration and staff. Many of its graduates became men of distinction and leadership. We may well be proud of its record. Today, when the demands for professional service have a far vaster range, as applied science has expanded tremendously in all directions, the Institute is meeting immeasurably greater opportunities with the same resolute spirit, the same belief in the necessity for sound basic training of students. But there have developed, in addition, an even greater appreciation of the values of personality and cooperative action in the human problems which confront the engineer, and a larger sense of obligation to provide leadership in the consideration of the great industrial, social, and economic problems of recent times. Through your training, your opportunities to help in the solution of these problems are far greater than those of the graduate of my student days.

(Continued on page 400)

The Hydro-forming Process Enlists for War Service

A year ago the Pan American Refining Corporation and its affiliated marketing organization, American Oil Company, maker of Amoco products, announced the first commercial installation of the new Hydro-forming Process. This catalytic conversion of paraffinic hydrocarbons to high octane aromatics was designed to make available more of the potential energy in the petroleum; and, by controlling combustion, to yield a motor fuel with smoother, more efficient performance.

With the coming of war, this process acquired new significance. Today we are making base stock for blending with other products to produce the 100 octane gasoline so vital to our war effort. And we are constructing a new, large plant for the extraction of toluene (used to make TNT) from Hydro-formed gasoline.

And so the process which was designed to put more power in America's peace-time motors is now putting its strength behind America's great drive for victory.

A List of M. I.T. Graduates with Our Company

ROBERT E. WILSON '16,

President

R. H. PRICE '21,

Director of Research, Texas City, Texas

P. E. DARLING '27,

Chief Engineer, Texas City, Texas

J. B. HAMBLEN '27,

In Charge of Hydro-forming Operations, Texas City, Tex.

L. W. MOORE '33,

Manufacturing Department, New York, N. Y.

C. F. FEUCHTER '34

Manufacturing Department, New York, N. Y.

I. MAYER '38.

Research Laboratory, Texas City, Texas

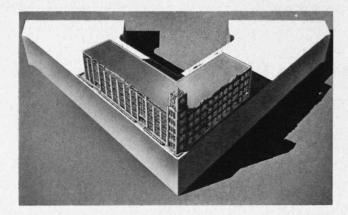
E. J. STANTON '41,

Research Laboratory, Texas City, Texas





OIL COMPANY



The home of Champion Lamps — where every worker, every engineer, every inspector is concentrating on the task of turning out the very best lamps using the least amount of critical materials.



Test racks for Quality Control. Here Champion Fluorescent Lamps are constantly being tested for maintenance of lumen output, uniformity, life, and compliance with Champion's bigh standards.



FLUORESCENT INCANDESCENT

Since 1900 the Champion organization has specialized in the production of lamps of unsurpassed quality — licensed under General Electric Co. incandescent and fluorescent lamp patents.

Champion Lamps can help you provide the 25 to 100 foot candle light intensities that are playing such a vital part in keeping war production at the peak of efficiency twenty-four hours a day.

CHAMPION LAMP WORKS Lynn, Massachusetts A DIVISION OF CONSOLIDATED ELECTRIC LAMP CO.

PROSPECTS AND RETROSPECTS

(Continued from page 398)

In one of his great political speeches dealing with a crisis in national affairs, Patrick Henry asserted, "I know of no way of judging the future but by the past," and Stoddard expressed the same idea in his line, "The future will but turn the old sand in the falling glass of time." In classroom language, the implication of this might be that if we can clearly analyze and arrange the facts of past experience, we may in a fair measure extrapolate and predict the curve of the future. As you well know, the application of this principle statistically has been made in many ways, as for example in the prediction of changes of population, in vital statistics, in the working out of insurance tables of life expectancy, and in the study of business cycles. All these are practical applications of retrospection. To attempt statistical analysis as applied to present conditions or to predict your future as a class may not be equally logical since so many new factors in the problem have not been hitherto encountered, but a retrospective reference to some aspects of the past may not be without interest and significance.

For the third time within the period since I was in the position of a graduating student like each of you, our country has been plunged into a war not of its seeking. The first of these, the Spanish-American War, was not a major conflict and was soon terminated through superior equipment and some outstanding examples of leadership. Yet, at the time, student psychology was much like that at present, although the man-power needs of the country were infinitely less than today. Many students, anxious to be of service, left their studies and enlisted in the Army or Navy. Others were restrained with difficulty and waited until they completed their Courses. With the sudden ending of the war, a few remained in military or naval service, but the great majority were soon engaged in the professional fields for which they had prepared themselves.

In the second instance, retrospection and memory provide another picture of more stirring character. A situation comparable to that which you now face came in 1917 when the United States entered the first World War engulfing nearly all the major nations. Throughout the country the fuel of patriotic feeling, which had long been glowing, burst into flame. Men from college and factory and farm rushed to the colors. As at the present time, long before war was actually declared, Technology became essentially a war laboratory and was soon a training ground for many special types of military and naval service. Practically the whole instructing staff and thousands of Alumni and students threw all their energies into the great struggle for the principles of democracy. Almost to a man, the graduating classes of the period were enrolled in the forces of their country. When after the years of conflict the peace had been restored and the problems and confusion incident to the establishment of normal national life had become somewhat adjusted, the great majority of these men returned to the professions and activities for which their technical training had prepared them.

(Continued on page 402)

HERE IS THE CHART TODAY'S RESISTOR USERS NEED

Complete—Practical—Easy-to-Use

Here, in a single chart—suitable for wall-hanging or desk use—is all of the essential technical data on over 122 sizes in 18 standard IRC fixed and variable resistor types for War and essential industrial use. This up-to-the-minute information includes wattage and voltage ratings, dimensions, resistance values available, terminals, mountings, maximum operating temperatures, temperature rises, temperature

coefficients, inductive characteristics, prices in small lots for estimating purposes, availability of various types for army and navy use—everything, in short, to simplify the selection of the right resistor for your electrical and mechanical requirements.

Write for your copy today—or as many copies as may be required to equip everyone in your organization who may have use for it.



PROSPECTS AND RETROSPECTS

(Continued from page 400)

War experience did not deter these men from subsequent accomplishment or interfere with effective and successful careers. In large measure, the young graduates of that period, possibly in part because of the variety, strenuosity, and responsibility of their experiences, plunged into the normal activities of their numerous technical fields with zeal and efficiency. Today their class lists contain the names of many whose professional success or industrial leadership is unquestioned and widely recognized.

Viewed in the light of history and logic, this experience will be repeated. This war cannot be won by wishful thinking or evasion but only by unified action and clear vision, for "Where there is no vision the people perish." Eventually, if we have the patriotism, determination, and self-sacrifice to use all our vast resources — human, scientific, and material — for the common good, we cannot doubt that America will continue ever to be the land of the free.

Perhaps months or years may be spent, but when victory comes, as it surely will, you who are now ready to give what you have—your training, your splendid strength, and your brave spirit—will take up anew the professional careers that must now be delayed. Strength-

professional careers that must now be delayed. Strengthened in character by discipline and responsibility, wiser and clearer of vision because of experience, you may reasonably expect to take your full share in the great problems of social, economic, and industrial reconstruction that will certainly demand the attention of clearthinking and capable men of scientific and engineering training. In your planned prospects let these future duties have thoughtful consideration.

Prospect and retrospect, like action and reaction, are oppositely directed; unlike them, they are not necessarily equal. The one signifies something dynamic, full of promise or action, and bright with hope and faith in the road that lies ahead; the other is static, incapable of positive or direct action, but crowded with precedents and with data often of real value and historic interest, as well as with the kaleidoscopic impressions gathered on the road already traversed. Fortunately, time often diminishes or blots out many of the undesirable and unpleasant impressions and in the summing up of memories leaves to us an algebraic total on the happy side. This I believe to be the experience of most individuals whose work has been constructive and useful, and is especially so in the cases of those whose lives have been spent largely in a college or technical school environment bringing daily contact with exuberant, idealistic, and hopeful youth. In general I think the experience is true of all persons of optimistic nature who have not suffered unusual misfortune and who really love their fellow men.

Looking backward, as you and I now come to the parting of the ways, I can visualize happily not merely your class and the earlier ones with which you have been associated as fellow students, but many others as well. To us of the old school, my emeritus contemporaries and

(Concluded on page 404)

A STATEMENT IN UNIQUE FORM



The statement below, made up in an original way, is presented with the object of calling particularly to your attention the care with which the policyholders' interests are protected by the Boston Insurance Company.

Boston Insurance Company

INCORPORATED 1873

Summary of December 31st, 1941 statement filed with Massachusetts Insurance Department LIABILITIES ASSETS

Unearned Premium Reserve	5,331,172
All Other Reserves and Liabilities	2,044,516
Capital\$3,000,000 Surplus	
Policyholders' Surplus16	,374,092

Losses in Process of Adjustment......\$ 1,331,009

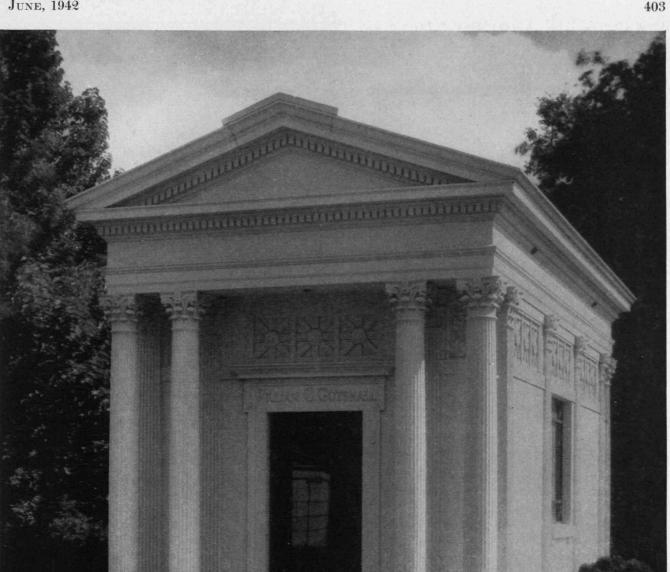
Cash	1,331,009
Cash	227,000
Cash	270,000
Cash	799,276
U. S. Government Bonds	4,531,896
U. S. Government Bonds and Notes	165,452
Canadian Government Bonds	227,564
State, County and Municipal Bonds	869,364
Railroad Bonds	303,791
Public Utility Bonds	149,784
Other Corporation Bonds	328,561
Other Corporation Bonds	57,004
Stocks	6,420,348
Stock of Old Colony Insurance Company	7,677,826
Real Estate (Home Office Building)	975,000
Premiums in Course of Collection and other	
Admitted Assets	1,243,914

\$25,577,789

\$25,577,789

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PROSPECTS AND RETROSPECTS

(Concluded from page 402)

those present associates who, like you and me, will soon be departing from our present official connection with the Institute, you are all as younger brothers as you join your predecessors in the ranks of the graduates. If I may speak for these colleagues as well as for myself, our thoughts of you at this time cannot be better expressed than in these lines from Longfellow:

And ye who fill the places we once filled, And follow in the furrows that we tilled, Young men, whose generous hearts are beating high, We who are old, and are about to die, Salute you; hail you; take your hands in ours, And crown you with our welcome as with flowers.

You may be pleased to know we believe that you, like the long train of your student predecessors, have contributed much to the intangible but real rewards of those who have been your teachers. If your technical instruction has sometimes seemed exacting and rigidly emphasizing the application of long-established principles, bear in mind that these must ever be basic in the search for truth, which is the foundation for all science and engineering. We hope, also, that you now feel and will increasingly realize that your instructors were not cold, cynical, and materialistic, but human, warmhearted, cognizant of spiritual values, and deeply concerned for the breadth and fullness of your lives as well as for your

professional qualities as you go forth as representatives of the Institute. We see you go with both pleasure and regret, but especially with confidence in your power to do the work of well-trained and educated men. You go with our sincere wish that life will bring you honor, happiness, and professional success and that the prospects now envisioned will be followed by a harvest of satisfying memories.

THE COURSE IS CLEAR

(Continued from page 374)

world of trouble at the highest possible point. We want to remember that we are men of spiritual faith and that one of the qualities which bolster our courage at this time, which bolster our faith in ultimate victory in this war, is the fact we are fighting nations which have lost their spiritual faith, which have turned to worshiping the state and are trying to have the state create the same emotional feeling in man that God has always created in him. That to me is one of the most optimistic thoughts which can come to us at the present time, for it is inconceivable to me that men with a faith of that character can possibly triumph over men with your spiritual faith and the high ideals that go with it.

Today people love truth. They want to know the facts. Think of the record that Winston Churchill has made because he told the people honestly that he had

(Continued on page 406)

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turbed to win the battle of production.

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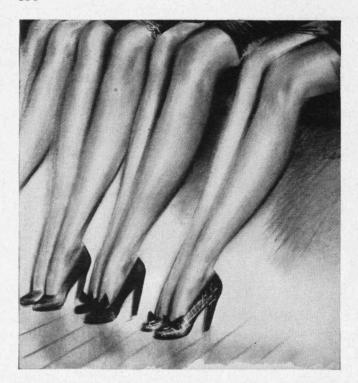
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	107
FRANK B. SHIELDS,	'07
EDWIN M. McNALLY,	18
LEON P. BREZINSKI,	*29
RICHARD L. BERRY,	'30



For modern shaving - No Brush-No Lather-No Rub-in

THE COURSE IS CLEAR

(Continued from page 404)

nothing to offer but blood, sweat, and tears. And think today how we seek to know the truth about what is going on in the world. We want to know the facts, and we want to hear the truth spoken by men in responsible positions.

Incidentally, it is more practical always to tell the truth! For the last 20 years, I have happened to be in public office, where a lot of pulling and hauling go on. At first a man on one side of the question will hammer the public official pretty hard trying to get admissions from him, and then a man on the other side of the question will hammer him, also trying to get admissions from him. When questions of that character have come up and it is rather difficult to know just how to make a decision, I have told myself many times to tell the truth to each man and let it go at that. It is the best answer, practically. But morally and spiritually, too, you feel better if you tell the truth.

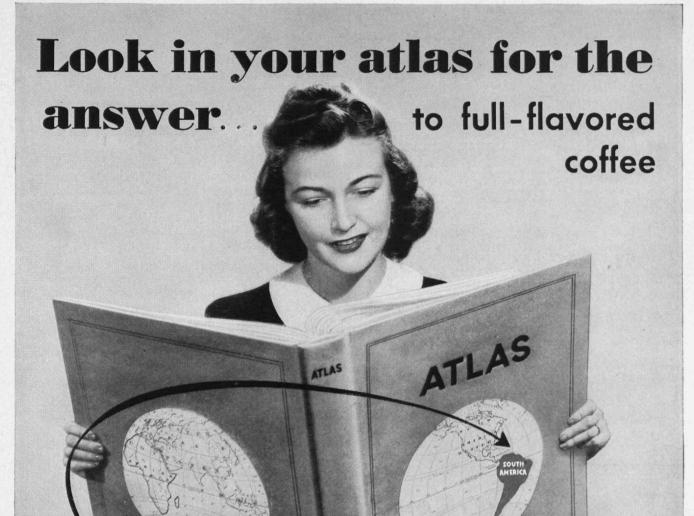
There is also the question of perseverance — the question of knowing when to compromise or knowing when there is only one way in which to go. Here no dogma can be laid down. If you know that a stand which you are taking is the right one, whether it is in science, government, law, medicine, or anything else, then you have got to stick to that decision no matter what the other side may say. But when no question of moral right is involved, the question of how far to go to work out a happy compromise of different points of view comes in.

Above all, in order to meet questions like these, you must have courage — physical courage and intellectual courage. As members of the Class of 1942, you have intellectual courage, or you would not be sitting here today in your caps and gowns. You have had the ability and perseverance to get through the difficult course that is offered here at Technology. But that same intellectual courage and persistence which enabled you to be here today must be carried on in after life in whatever endeavor you undertake.

Those words, "To look up and not down," can almost by themselves constitute a character in all that the term implies. But we come to the words, "To look forward and not back." Put those to the practical test. The winner of the marathon race in Boston this spring illustrates it. When somebody asked him if he had been worried during the race because the second man was so close to his shoulder, he answered: "I don't care who's behind me or where they are, because I never look back. I'm always looking ahead, getting a line on the runners out in front, how they're doing, and figuring my race."

We hear a lot today about security. True, we all want security, but if we are going to be secure we cannot be entirely successful. If we do not take any risks, then we are never going to get ahead. This is still an age and a country of individualism. The laissez-faire doctrine, they say, is out. Maybe it is in part, but the laissez-faire doctrine is never out to a man who is going to get ahead and make the most of his life. At the same time, we have to be willing to assume responsibility. You men have to be ready to take on the responsibilities that may go with your new jobs.

(Continued on page 408)





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THE COURSE IS CLEAR

(Continued from page 406)

The men in our time whose careers are worth emulating have done just this thing. I was recently talking to such a man in Springfield, who told me that he had worked 26 years in one firm. He is now one of the largest manufacturers of war products in the western part of Massachusetts. He did not have the opportunities of an education such as you have had. He went into the firm as a messenger boy at the age of 16, and he is now the head of that firm. I like to think also of the life of one of the former professors at the Harvard Law School who now is an associate justice of the Supreme Court, Felix Frankfurter. He was not even born in this country, did not grow up with the language, yet through hard work, scientific knowledge, and willingness to take responsibility and risk, he has risen to the top. Those are individuals; those are goals toward which we want to look. Those men have made a success of their lives because they have been willing to work, to take a chance, and to assume responsibility.

Finally, we come to the words,

To look out and not in — and To lend a hand.

Where are we going to get if we are selfish? Where are we going to get if we think just of ourselves? Today the high ideals of our country, of our American way of living, start with a good family life. Next come civic responsibilities, for with a good family and a good home to which to go, we want the community in which we live to be a good community. Thus we go from the community to the state and to the nation, and that is the background of our democratic form of government.

How can a man get into public affairs, a man of your age? There are five ways in which a man can take part in the public affairs of his community: He can be a teacher — a teacher of government, history, or economics, in a school or college. He can be a commentator, like Walter Lippman, Dorothy Thompson, David Lawrence, or any of the others whom we read in the daily papers. He can be a scientific man who has received an appointment as a doctor of public health, as a physician in charge of a mental institution, as a scientist in agriculture, or in any of the other categories in which men of that training are engaged. He can be just a good member of the community who helps other people in his afterhours, who makes it, for the time being, his avocation to (Concluded on page 410)

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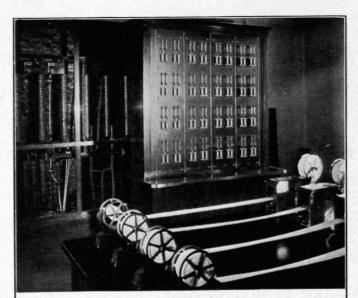
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THE COURSE IS CLEAR

(Concluded from page 408)

help raise money for a hospital or to help elect to public office somebody in whom he believes. Finally, he can seek success at the polls. There are all those ways of living up to our democratic ideals of looking out, not in — and lending a hand.

So it seems to me the path of the Class of 1942 is a clear one. When we win this war — and we are depending on you to win it — then you are going to help to convert the wartime world with all its scientific equipment to a peacetime basis. To accomplish that task, you need character, you need the will to succeed, you need a good family life, and you need a feeling of scientific responsibility rather than wealth. The words of Edward Everett Hale, repeated twice by Dr. Eliot — when he took over the presidency of Harvard and on his ninetieth birthday celebration — are hence just as good today as they were then:

To look up and not down,
To look forward and not back,
To look out and not in — and
To lend a hand.

THE INSTITUTE GAZETTE

(Continued from page 380)

which we are fighting to defend. It is these principles and the idealism that lives in the traditions and people and structure of these United States of ours which give to us all the power to carry on in this time of crisis.

Training for Defense

In recognition of the rapidly increasing industrial opportunities for women with specialized technical training, the Institute this summer will offer a full-time course in aeronautical engineering which will be open to 25 young women who hold bachelor's degrees from recognized colleges. The purpose of the course is to utilize the natural aptitudes and qualifications of women for subprofessional service as aeronautical engineering assistants on the staffs of aircraft factories. The duties for which the course will prepare include the operation of advanced calculating machines, the scaling of drawings, the computation of the properties of airplane wings, the solution of mathematical problems, the (Continued on page 412)

Lotte Chemical Company, Inc.

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Great soldiers are needed to man the tools of war—great sailors to man the Allied fleets—great fliers to control our bombers, interceptors, Flying Fortresses. But behind all these men must stand the engineers who build the weapons of war.

DIEFENDORF GEAR CORP., Syracuse, N.Y.

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DIEFENDORF GEARS

THE INSTITUTE GAZETTE

(Continued from page 410)

graphical integrating of areas, the observing and the recording of test data, and the plotting of data curves. Women applying for the course are expected to have had college mathematics up to, and including, an introduction to calculus; to have taken college physics through three semesters, with laboratory work; and to have an aptitude for the natural sciences. The course, which is to be given under the Engineering, Science and Management Defense Training Program, begins on June 22 and will end on September 12. The subjects to be covered include elementary engineering mechanics, an introduction to engineering drawing, applied mathematics, and an introduction to aeronautics.

Enrollment in the 34 subjects which were given from October to March in the E.S.M.D.T. Program at Technology included 1,107 civilians and 250 from the armed forces of the country. Twenty-eight per cent of the students registered had attended previous defense courses.

The Institute's defense training work, of course, is part of the larger program in which six educational institutions in the Greater Boston area are participating. Administration of the Greater Boston undertaking is done by the Defense Training Bureau at Technology, which serves as clearinghouse for registration and operation for the six participating institutions.

College graduates among students registered in the civilian defense courses given by the Institute represent a wide variety of professional fields. Mechanical engineers head the list, with 52 registrants. Civil engineers, electrical engineers, chemists, and chemical engineers are next in order.

Visiting Committee Report

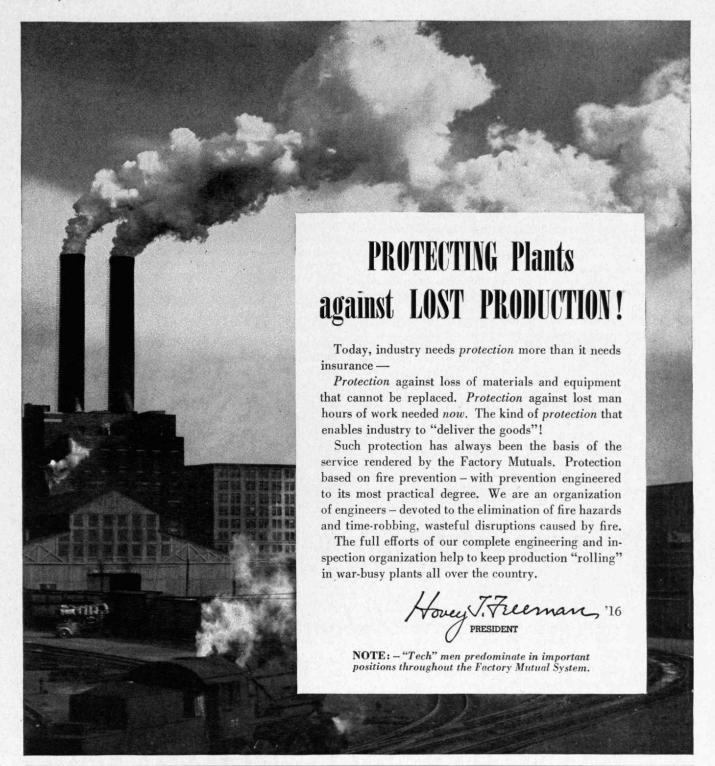
SPECIAL problems confronting college students in time of war are discussed and solutions for them suggested by the Visiting Committee whose report follows.

DEPARTMENT OF MILITARY SCIENCE AND TACTICS *

As a result of the accelerated program of instruction in Technology and many other institutions, students will lose the opportunity to earn money during at least one of the summer terms; that is, during those sessions used for instruction in order to move forward the date of graduation. Two important results are: First, some students already in these institutions will be unable to complete their education because of inadequate funds; and second, many promising students in the secondary schools, faced with the certainty of a greater cost for their college education, will find the outlook so unsatisfactory that they will prefer to enlist in the armed forces immediately or to accept jobs in industry, with the resulting failure to qualify themselves to the extent that would otherwise be possible.

(Continued on page 414)

*The members of this Committee for 1941–1942 are Thomas C. Desmond, '09, Chairman; Stuart C. Godfrey, '07, brigadier general, United States Army; Donald G. Robbins, '07; Theodore B. Parker, '11; Egbert C. Hadley, '14; Sherman Miles, major general, United States Army; and F. B. Wilby, major general, United States Army, who was unable to participate in the preparation of this report.



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THE INSTITUTE GAZETTE

(Continued from page 412)

This problem is believed to be serious from a military point of view, because the technical branches of the Army will require thousands of additional officers during the next few years, and, in order to obtain them, all young men who are potential candidates for such commissions should, if possible, continue their education.

Past experience indicates that the men who have earned part of their education, and who have had to face the solution of personal financial problems, are apt to be the more mature men who have better qualifications for leadership. Therefore, the loss of these men from the educational process may remove a much greater than a corresponding proportion of the best potential officer material.

In general three types of solution appear to be available: The first is to increase existing allowances; the second is to create military scholarships or some other new type of government aid; and the third is to make some use of loan funds already existing at certain institutions, possibly supplemented

by additional grants from other sources.

Increased allowances at present Reserve Officers' Training Corps institutions. The present commutation of subsistence allowance might well be increased from the current twenty-five cents a day to approximately \$1.00 a day. This sum would nearly correspond with actual costs of subsistence for students at various institutions and, extending over a 16-month period, a substantial additional sum would be provided. This figure might well be supplemented by the following means: The present clothing allowances for students in advanced courses

could be increased to cover the actual costs of uniforms at present required plus sufficient additional uniforms so that the student would have them to wear full time and thereby save the cost of civilian clothing. An increase in the present allowance, which is approximately \$36, to about \$150, is estimated to be required for this purpose.

Another means of increasing the financial compensation of students under existing R.O.T.C. procedure has been suggested. This plan is to pay the student at the former summercamp rate; that is, \$1.00 a day during the summer or summers that he must attend school as required by the accelerated

program of instruction.

Military scholarships payable by the government. Possibly a more equitable procedure would be to augment the allowances, as has been suggested, but, in addition, to have the government pay the tuition for selected students taking the advanced course. These students would be required to meet academic and military standards, and they would be expected to compensate the government for the added expenditure involved by definitely assuming an obligation to accept a commission.

This procedure could readily be applied to non-R.O.T.C. institutions through careful selection of individuals concerned and by supplementing their academic instruction by one or more summers of active duty with the Army. Enrollment in the enlisted reserves with call to active duty for summer training would provide the satisfactory modus operandi in applying this solution.

It is considered especially important in connection with the possible use of military scholarships in non-R.O.T.C. institutions that care be taken to avoid any lowering of standards or any reversion to something approaching the Students' Army Training Corps in effect during the last war. Such a

(Continued on page 416)

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R. Johnson	S.B. '26			J. C. Woodruff	S.B. '11



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THE INSTITUTE GAZETTE

(Continued from page 414)

condition is well guarded against in the R.O.T.C. institutions by the existing procedure in selection of those to take the advanced course.

Financial aid from other sources. Many of the educational institutions have now provided student loan funds, and it is felt that the use of these funds could preferably be made available to selected students who show promise of becoming officer personnel. New private contributors to existing loan funds or donors of new funds might be encouraged and solicited by the schools to assist the students in remaining until graduation. It is believed that the government could set up a loan fund to be administered by each school and supplemented from various sources that are available in the schools for student loans. In many cases where the schools now have a loan fund, the plan of administration is rather well established to care for conditions existing up to the present time, and unless a new source of income can be provided by the government, no increase would be available for the students pursuing advanced military work.

If provisions are made for increasing the allowances of students, the same careful selection that is now practiced in choosing men for the advanced R.O.T.C. units should be continued in order that there may be no lowering of the standards of officer candidates. Of course, all of the students who receive any financial assistance will be regularly enrolled

members of the school, and will be physically qualified to receive their commissions when and if offered. It is also considered advisable to require the student before accepting financial assistance to obligate himself to accept the commission when and if offered.

Editor's Note: Since the meeting of the Visiting Committee and the preparation of this report, R.O.T.C. students at the Institute who spend the summer following their junior year in study and who are faced with financial difficulties have been able to find relief. Special scholarship funds have been made available to the Institute for assisting qualified students during the summer, and the Technology Loan Fund has been helpful. In addition, the Army has increased the clothing allowance to students in the advanced R.O.T.C. Through these and other ways, students at the Institute have been cared for and to this extent the recommendations of the report have been put into effect. Through this report, the larger question of over-all aid to students in R.O.T.C. colleges throughout the country has been brought to the attention of the War Department by President Compton.

From the Polls

FOR the ensuing year, these officers have been elected to serve the Alumni Association: Francis A. Barrett, '24, President; Edwin D. Ryer, '20, Vice-President for two years; and Arthur L. Shaw, '09, and Ezra F. Stevens, '27, members of the Executive Committee for two years. B. Edwin Hutchinson, '09, Duncan R. Linsley, '22, and Richard L. Bowditch, '23, have been elected alumni term members of the Corporation of the Insti
(Continued on page 418)



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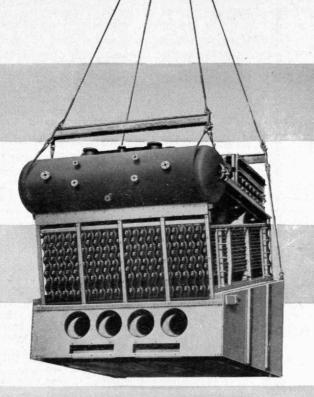


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THE INSTITUTE GAZETTE

(Continued from page 416)

tute. In the contest for membership on the National Nominating Committee of the Association, Frederick D. Murdock, '13, was elected to represent District 3; George W. Spaulding, '21, District 6; and Sherry O'Brien, '17, District 7.

Robert H. Richards, '68, George M. Tompson, '73, Alfred S. Higgins, '78, Julien W. Vose, '83, John C. Runkle, '88, Frederic H. Keyes, '93, Edward S. Chapin, '98, James A. Cushman, '03, Herbert T. Gerrish, '08, R. Charles Thompson, '13, F. Alexander Magoun, '18, Howard F. Russell, '23, George I. Chatfield, 28, Robert M. Kimball, '33, and Richard Muther, '38, were elected representatives of their respective classes on the Alumni Council.

Athletes

HIGHLIGHTING Technology's sports program in recent months was the showing of the freshman wrestling team. Both last year under Joseph T. Rivers, Jr., '41, and this year under the tutelage of the new head coach, John H. Lutz, this team kept clean its victory slate. Included among the vanquished teams this year were Harvard, Tufts, and Springfield freshmen, and Governor Dummer Academy. Last year's freshmen were victorious over Moses Brown School, Governor Dummer Academy, Suffield Academy, and Harvard and Springfield freshmen. The varsity record in wrestling this year was three wins (Harvard, Amherst, and Tufts) and two losses (Williams and Wesleyan).

Oscar Hedlund's mile-relay team, although it ran third against Syracuse and Cornell at the Boston Athletic Association games, made the unofficial time of 3:27.6, which is two-tenths of a second under the official record of 3:27.8 made in 1941 by George W. Clark, '41, Sidney L. Hall, '43, Eugene J. Brady, Jr., '42, and Lewis T. Jester, Jr., '41. At the Millrose games in New York, Technology was second to Williams in a milerelay race and was followed across the finish line by Amherst and Columbia. In the relay races of the Intercollegiate Association of Amateur Athletes of America held in New York, the Institute's relay team, by run-(Continued on page 420)

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THE INSTITUTE GAZETTE

(Continued from page 418)

ning the mile in 3:25 — 2.8 seconds faster than the established Technology record — won fourth place and two points for M.I.T. The individual times of the runners were as follows: Robert B. Meny, '44, in 51.8 seconds; Edwin H. Stewart, Jr., '43, in 51.4 seconds; Eugene J. Brady, Jr., 50.8; and Sidney L. Hall, 51.0.

On the cinders, Oscar Hedlund's charges, sparked by the members of the record-breaking relay team, have defeated both Colby and Bates by decisive margins. The track meet of the New England Inter-Collegiate Amateur Athletic Association, in which Frank H. Briggs, '81, took an active role for years, has been canceled because of the academic speed-up at New England colleges.

The basketball squad, under Head Coach Henry P. McCarthy, finished its season with a record of four wins and six losses. The games won were registered over New Hampshire, Middlebury, Bates, and Vermont, and games were lost to Harvard, Brown, Boston University, Tufts, Lowell Textile, and Williams.

Technology's crews — coached by Bob Moch, former University of Washington freshman coach; Jim Mc-Millin, No. 5 oar in the 1936 Olympic crew; and the venerable veteran, Pat Manning — have completed a stiff rowing schedule. On Alumni Day, April 25, the sixth regatta in memory of Allan Winter Rowe, '01, was held on the Charles River. Crews from Boston University, Cornell, Harvard, Syracuse, and Technology competed in a colorful regatta that ended with Harvard and Cornell fighting for the coveted trophy. The varsity crews finished in the following order: Harvard, Cornell, Syracuse, M.I.T., and Boston University. Technology crews also participated at Princeton on May 2 in the Compton Cup Regatta, which was won by Harvard. On May 16 the Adams Cup Race was rowed on the Charles, with the crews finishing thus: Harvard (9:18.6), Wisconsin (9:25), Navy (9:25.2), M.I.T. (9:27.8), and Pennsylvania (9:33).

Two coaching resignations have been received by the Advisory Council on Athletics. They are from John J. Jarosh, '30, varsity coach of swimming since 1935, and Robert H. Maddux, varsity coach of lacrosse since 1938, both of whom had been retained on a part-time coaching basis. They have served Technology well and are leaving to accept better positions outside New England in their respective professional fields. Maddux' lacrosse team has completed the most successful year in the history of this sport at M.I.T., with victories over Harvard, Tufts, Boston Lacrosse Club, and the University of New Hampshire.

Summer Session

THE forthcoming Summer Session will find the Institute engaged to the limit of its resources in research and education in fields important to advancement of the nation's war effort. Under the accelerated schedule (Continued on page 422) JOSEPH BANCROFT 1831

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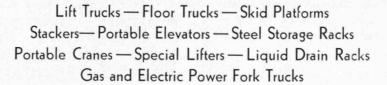
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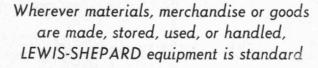








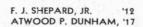






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THE INSTITUTE GAZETTE

(Continued from page 420)

for seniors, the Class of 1943 will begin its work early this month to permit graduation next February. Registration of students in other categories, including an impressive contingent of army and navy officers, is expected to be the largest in many years. A number of conferences on various subjects of importance to public health, research, and industrial production are also scheduled for this summer.

A course in industrial statistics, of value to workers in industrial plants and scientific laboratories who require the rudiments of modern statistical technique as applied to inspection, to the design and analysis of factory and laboratory experiments, and to the control of the quality of industrial output, is being given between June 15 and 27 by George P. Wadsworth, '30, Assistant Professor of Mathematics, and Harold A. Freeman, '31, Assistant Professor of Statistics.

The annual summer conference on spectroscopy and its applications, the tenth in a distinguished series which has always attracted wide attendance, will be held on July 20, 21, and 22. This year the conference will be sponsored jointly by M.I.T. and the Optical Society of America, which will hold a meeting here at the same time. The conference will be under the direction of Professor George R. Harrison.

To meet the growing shortages in the profession, an intensive and accelerated training for public health workers is being initiated this summer under the direction of Clair E. Turner, '17, Professor of Biology and Public Health. This program will provide adequate training for public health administrators, public health engineers, public health bacteriologists, and public health educators.

The initial phase of the program begins on June 8, and will continue through July 24. A second seven-week session will cover the period from July 27 to September 12. In addition, the Institute is offering four accelerated (Continued on page 424)

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THE INSTITUTE GAZETTE

(Continued from page 422)

courses of graduate study leading to the degree of master in public health or the certificate in public health. These start on June 8 and will continue through February 6, 1943. One of them is of special interest to public health engineers and is open only to graduates of recognized schools of engineering. A second one, to be offered for public health administrators, is open only to graduates of approved medical schools. A third program, for public health bacteriologists, enables college graduates who have a basic training in physics, chemistry, and biology to do diagnostic laboratory work with military or civilian organizations. The fourth course is being offered for the training of health educators, for whom the demand far exceeds the supply.

A summer program in city and regional planning, to be given under the joint sponsorship of the School of Architecture and the American Society of Planning Officials, is scheduled for July 13 to 31. The program was arranged to meet the need for an intensive course covering both administrative and technical aspects of city and regional planning. The program will be in charge of Frederick J. Adams, Associate Professor of City Planning, and Flavel Shurtleff, Associate Professor of Planning Legislation and Administration.

The national meeting of the applied mechanics section of the American Society of Mechanical Engineers is being held in the Department of Mechanical Engineering on June 19 and 20. The program will include papers on applied mechanics and the strength of materials, with special reference to problems which arise in war production.

A summer course in photoelasticity will be offered by the Department of Mechanical Engineering from July 27 to August 7 to meet the demand for men with special training in various methods of stress analysis.

A conference on fire protection engineering, a subject of urgent importance in industry during the war emergency, is being held on June 22, 23, and 24 under the joint sponsorship of the Department of Building Engineering and Construction and the School of Architec-

(Concluded on page 426)

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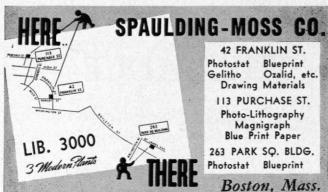
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THE INSTITUTE GAZETTE

(Concluded from page 424)

ture in co-operation with the National Fire Protection Association. The conference is open to industrial and consulting engineers, architects, building officials, fire chiefs, civilian defense officials, and secondary-school teachers.

Commencement

THE Class of 1942, completing its work six weeks ahead of the Institute's normal undergraduate schedule, was graduated in Symphony Hall, Boston, on the morning of April 27, and its 469 members quickly dispersed to take their places in the nation's armed forces and important war industries. More than 2,000 relatives and friends of the Class witnessed the ceremonies and heard the commencement address of Samuel C. Prescott, '94, who retires this year as dean of science, and the thoughtful message of President Compton.

This year's senior class included 454 bachelors of science, 14 bachelors in architecture, and 1 bachelor of architecture in city planning. Commissions in the Officers' Reserve Corps of the Army of the United States were awarded to 108 men. At least 43 per cent of the Class entered the Army or Navy Reserve as commissioned officers. The remainder have undertaken work in industry, research, graduate study, or teaching.

The commencement procession was led by Alexander Macomber, '07, chief marshal, and the invocation was given by the Rev. Michael J. Ahern, '06, head of the seismology department of Weston College. Commissions in the Officers' Reserve Corps were presented by Sherman Miles, commanding general of the First Corps Area. Among the guests of honor in the academic procession were William T. Tarrant, commandant of the First Naval District; General Miles; Maurice J. Tobin, Mayor of Boston; John H. Corcoran, Mayor of Cambridge; B. Edwin Hutchinson, '09, President of the Alumni Association; the retiring members of the Faculty; and members of the 50-year Class.

THE TREND OF AFFAIRS

(Concluded from page 366)

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It is the purpose of the Alumni Fund to replace these sporadic drives for large sums by an annual request for contributions of more modest amounts. As funds accumulate, a substantial sum will become available to be transferred to endowment, scholarship, recreational facility, or similar necessary capital uses.

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COMPARATIVE SCHOLASTIC STANDINGS OF FRATERNITY AND DORMITORY UNDERGRADUATE GROUPS AT M.I.T. (as of end of First Term, 1941-42)

	Increase	Increase
Comparative Standing	over	over
(based on February '41 ratings)	June '41	Feb. '41
Fraternity Seniors3.47	*0.18	0.00
Dormitory Seniors	*0.12	0.06
Fraternity Juniors	*0.12	*0.09
Dormitory Juniors	*0.07	*0.04
Fraternity Sophomores	*0.17	*0.19
Dormitory Sophomores	0.07	0.03
Fraternity Freshmen	0.02	*0.03
Dormitory Freshmen	*0.28	*0.22
GENERAL AVERAGE. 3.14 (Fraternity)	*0.12	*0.09
GENERAL AVERAGE	*0.09	*0.03

FRATERNITY SCHOLASTIC STANDINGS

	FRATERNITY SCHOLASTIC STANDINGS							
	Comparative Standing of 24	Increase	Increase	Comparative Standing of	Comparative Standing	Comparison		
	Chapters (based on February	over	over	24 Chapters over previous	of Freshmen of Feb.	with Chapter		
	'42 ratings)	June '41		five-year period	24 Chapters '42	Rating		
		THE RESERVE AND ADDRESS.		1. Pi Lambda Phi	1. Alpha Tau Omega3.57	+0.193		
	Kappa Sigma3.38	*0.15	*0.04		2. Theta Delta Chi 3.47	+0.13		
	Alpha Tau Omega3.377	0.19	0.169	2. Sigma Alpha Mu		+0.02		
	Phi Sigma Kappa3.375	0.355	0.215	3. Kappa Sigma	3. Delta Upsilon3.33			
	Theta Delta Chi3.34	0.12	0.08	4. Phi Gamma Delta	4. Phi Gamma Delta 3.31	+0.11		
5.	Pi Lambda Phi3.33	*0.08	0.09	5. Alpha Tau Omega	5. Phi Sigma Kappa3.30	-0.075		
6.	Delta Upsilon3.31	0.01	*0.04	6. Phi Delta Theta	6. Phi Kappa3.28	+0.20		
	Sigma Alpha Mu3.28	*0.28	*0.27	7. Delta Upsilon	7. Phi Kappa Sigma 3.23	+0.12		
	Delta Tau Delta 3.27	*0.07	0.08	8. Theta Delta Chi	8. Theta Xi	+0.04		
	Phi Delta Theta 3.21	*0.152	*0.24	9. Phi Kappa Sigma	9. Pi Lambda Phi	-0.13		
	Sigma Nu3.205	*0.255	*0.175	10. Sigma Nu	10. Beta Theta Pi 3.16	+0.01		
10.	51g.ma 11a	0.233						
	C							
	GENERAL AVERAGE	*0 10	*0.00					
	ALL Undergraduates3.20	*0.15	*0.08					
1						0.20		
11.	Phi Gamma Delta3.20	0.012	*0.003	11. Lambda Chi Alpha	11. Kappa Sigma	-0.28		
12.	Theta Xi 3.18	*0.01	*0.03	12. Phi Sigma Kappa	12. Sigma Alpha Mu3.09	-0.19		
4.1					GENERAL AVERAGE			
					ALL FRESHMEN3.06			
				THE USE OF STREET SEC.				
					GENERAL AVERAGE			
					FRATERNITY FRESHMEN 3.04			
		ton Ti			T KATEKITTI T KIMIDISTI			
					10 DI T DI 301	-0.26		
	Sigma Alpha Epsilon3.16	*0.24	*0.18	13. Sigma Alpha Epsilon	13. Delta Tau Delta 3.01			
14.	Beta Theta Pi3.15	*0.06	0.07	14. Beta Theta Pi	14. Sigma Alpha Epsilon3.00	-0.16		
	GENERAL AVERAGE ALL							
	FRATERNITY MEN3.14	*0.12	*0.09					
15	Phi Kappa Sigma3.11	*0.075	0.01	15. Sigma Chi	15. Phi Delta Theta 2.93	-0.28		
	Theta Chi3.107	*0.253	*0.203	16. Phi Beta Epsilon	16. Theta Chi	-0.217		
	Sigma Chi	*0.359	*0.296	17. Theta Chi	17. Delta Psi	+0.04		
			0.15	18. Delta Tau Delta	18. Phi Mu Delta2.87	-0.152		
10.	Phi Kappa 3.08	0.01	*0.45	19. Theta Xi	19. Delta Kappa Epsilon 2.85	+0.19		
19.	Lambda Chi Alpha3.03	*0.58	0.43	19. Theta XI	19. Detta Kappa Epsiton 2.09	10.25		
					20 T 11 CI: 41-1- 2.00	0.20		
	Phi Mu Delta3.027	*0.153	*0.093	20. Phi Mu Delta	20. Lambda Chi Alpha2.83	-0.20		
	Phi Beta Epsilon2.95	*0.21	*0.19	21. Delta Psi	21. Sigma Nu	-0.395		
	Delta Psi 2 . 84	0.18	0.09	22. Chi Phi	22. Phi Beta Epsilon2.70	-0.25		
23.	Delta Kappa Epsilon2.66	*0.21	*0.58	23. Delta Kappa Epsilon	23. Sigma Chi2.55	-0.531		
24.	Chi Phi2.50	*0.49	*0.56	24. Phi Kappa	24. Chi Phi2.02	-0.48		
18 4	* Decrease							

ALUMNI AND OFFICERS IN THE NEWS

Memorabilia

■ To WALTER E. HOPTON'91, given a 50-year membership badge of the American Society of Mechanical En-

¶ To Elmer A. Holbrook '04, elected president of the National Society of Professional Engineers. He succeeds John W. Beretta'23.

¶ To Alexander H. Van Keuren '07, appointed chief of the Bureau of

Ships, United States Navy.

¶ To Donald C. Bakewell'11, awarded the Lorenz medal by the Steel Founders' Society of America for having performed the year's outstanding service for the steel castings industry.

■ To ALDEN H. WAITT'14, named chief of the plans and training division, United States War Department.

¶ To Robert E. Wilson'16, appointed director of the Treasurycontrolled General Aniline and Film Corporation by Secretary Morgenthau.

■ To Lawrence H. Flett'18, presented the Jacob F. Schoellkopf gold medal for accomplishment constituting a major advance in science and embodying the spirit of research in industry, by the western New York section of the American Chemical Society.

■ To John R. Kimberly '26, named assistant chief of the bureau of industry operations, War Production Board. Charles S. Williams'11 heads the general industrial equip-

ment branch.

■ To LEE E. HILDEBRAND'27 and CHESTER W. SMITH '29, given the General Electric Company's Charles A. Coffin Foundation awards, the highest honors given by the company to its employees.

Imprints

■ By Charles B. Breed'97, Survey-

ing, Wiley.

■ By Robert S. Mulliken'17, "Molecular Spectra," Science, Feb-

■ By J. Ross Allen'22, Aerodynamics and Flight, International Textbook

■ By BIRGER R. HEADSTROM'24, Adventures with a Microscope, Stokes.

¶ By Henry G. Houghton, Jr., "The Transmission of Light in the Atmosphere with Applications

to Aviation," Journal of the Aeronautical Sciences, January.

■ By WILLIAM C. Morse 27, "After Victory," Ole Miss Alumni News, March.

I By BERNHARD HAURWITZ, staff, "The Propagation of Sound Through the Atmosphere," Journal of the Aeronautical Sciences, December.

Talkworthies

¶ Of Laurence A. Hawkins'99 on the revolutionary research war fosters; before the northeastern district meeting of the American Institute of Electrical Engineers in Schenectady, April 29.

¶ Of Rufus E. Zimmerman'11 on the part the American Standards Association is playing in the defense program; before the annual luncheon

meeting, December 10.

Of James A. Tobey'15 on the blood donor service of the Red Cross; during the "Listen America" broadcast, February 8.

■ Of Rudolf E. Gruber'16 on war chemistry; before the Woman's Press

Club, New York, December 27.

¶ Of WILLIAM ROSENWALD 24 on the ever-expanding theater of suffering and need brought on by total war; before the annual meeting of the Jewish Federation for Social Service of Dallas, January 14.

DEATHS

- * Mentioned in class notes.
- ¶ George Osgood '75, January 31, 1941.
- ¶ Philip Little '79, March 31. ELIZABETH HOWARD Tetlow
- (Mrs. John) '80, March 21. I EDWARD R. WARREN'81, April
- I ELHANAN W. KEYSER'87, April 22, 1930.
- Joseph P. Loud'87, April 13.
- GEORGE L. NORRIS'87, April 13.* ELLERY F. COFFIN'88, March 10. ■ ARTHUR C. SAVAGE'88, December
- EDWARD L. Brown'89, March
- ¶ Charles Cheney '89, April 11.* ■ Daniel F. Potter '92, March 7.
- EDWARD P. WHITMAN'92, February 17, 1940.*
- Samuel D. Dodge '93, December

CLARA SHEPPARD BLAKE (Mrs. Edmund) '95, February 8.

OSCAR C. A. CHILD'95, November 30.*

■ CLIFFORD B. SANBORN '95, April

¶ John C. Sherman'95, April 12.* I George L. Farley '96, September

Q Louis S. Kingman'96, August 21.*

¶ Harrison S. Taft '96, April 3.* ARTHUR P. UNDERHILL'96, April

¶ Horace W. Parmenter '97, May

■ Rodolphus A. Swan'97, April 1.*

■ Isabel Bevier '98, March 18.■ Wendell W. Chase '98, March 31.

■ S. Maria Elliott'98, March 16. ROBERT P. ANDERSON'99, March

■ BENJAMIN P. HAZELTINE'99, January 20.

¶ Herbert A. MacPherson '00, March 9.

¶ Isaac Osgood '00, March 24.*

¶ Frederick W. Witherell'00, September 20, 1940.*

CHARLES W. ADAMS'01, August

¶ Leon R. Thurlow'01, March 2. ¶ ARTHUR F. BENNETT '03, December 1.*

I Frederic C. Hirons'03, January 23.*

¶ SILAS C. MERRICK'03, March 24. I Frank A. Sherman'03, September 10.*

¶ Ira V. Woodbury '06, January 30. I HENRY P. T. VAN KEUREN'07, January 10.

ARTHUR S. DOUGLASS '08, March 6. ■ ROBERT C. KERR'09, March 6,

CHARLES D. CAREY'10, April 14. NORMAN H. LYNCH'13, October 1. ■ GORDON A. SCOTT'22, March,

1941. CHARLES L. WEIS, Jr., '22, April

12 ■ DAVID P. FIELD '23, August 7.*

CHESTER HARTLEY 23, April 6.*
CLIFTON GREENWELL 25, March 16.

■ VIDMAR B. STROMQUIST'29, January 24.

■ ROBERT C. PLATT'31, May 20,

■ Julius A. Ramstedt'33, October

NEWS FROM THE CLUBS AND CLASSES

CLUB NOTES

Technology Club of Chicago

On Monday, April 13, the officers of the Club, the Honorary Secretaries, and a few of our regulars tendered Nelson Works'17 a farewell luncheon at the University Club. Skip left the next day for his duties with the Ordnance Department of the Quartermaster Corps. He is stationed at the shell-loading plant at Grand Island, Neb. We have lost many men to the serv-

ice or to war work.

On Wednesday, April 15, the Honorary Secretaries held their annual session, beginning at 6:00 P.M. and lasting until nearly midnight. We interviewed 31 candidates for the freshman class and for scholarship awards. This is almost double the usual number. Dean Lobdell and Associate Dean Pitré sat in with us. The following Secretaries were present: Louis H. G. Bouscaren '04; Arthur B. Brand '26, of Rockford; Edmund G. Farrand'21, chairman of the scholarship committee; Lonsdale Green '87; Wesley H. Loomis, 3d, '35; H. Felton Metcalf '22; and Ralph Sargent'18. Two Secretaries doing war work in Washington are Albert J. Browning '22 and Robert M. Nelson '30. William Steinwedell'25 is in Dixon, Ill., as the general manager of the Stewart-Warner Corporation's shell-loading plant. Wes Loomis is still with us but expects to leave for the service soon. - EDMUND G. FARRAND '21, Secretary, 1200 Old Colony Building, Chicago, Ill. Lonsdale Green '87, Review Secretary, 5639 Kenwood Avenue, Chicago, Ill.

Technology Club of Kentucky

A meeting of the Club was held at the Bauer Café on Brownsboro Road in Louisville. Colored movies of the Institute were shown. Several Alumni who attended had not had the opportunity to get back to Tech since graduation. Many had never seen the present buildings in Cambridge, and they were particularly impressed with the new Technology. Those of us who have been out only a few years were similarly grateful to have a chance to see the Institute once more.

Steps are being taken to make the Club more active. The officers are planning an interesting and appealing program to draw in new members. Any new residents of the Louisville area are cordially invited to attend the next meeting, notices of which will be sent to all Alumni now living in or near Louisville. For details of our meetings, any Alumnus moving into our territory may write to our President, Elmer A. Skonberg'29, 1705 Clayton Road, Louisville, or to the Secretary. ALBERT J. KLEMKA'36, Secretary, 1843 Roanoke Avenue, Louisville, Ky.

M.I.T. Club of Northern New Tersey

The seventh annual banquet of the Club was held on April 16 at the Newark Athletic Club. At the dinner and meeting 173 Alumni were gathered, including 7 from the Class of '41, 18 attending a meeting here for the first time, and 4 from the classes of '00 or earlier. Alfred T. Glassett '20 and C. George Dandrow'22 came over from the Technology Club of New York. Frank Maguire 17, Carole A. Clarke'21, and Miles Pennybacker'23, ex-Presidents of the Newark Club, were present. All stood in memory of our former President, William B. Coleman '24.

Miles Pennybacker, chairman of the nominating committee, gave a report for 1942-1943. Since no additional nominations were made from the floor, the whole slate was declared elected as follows: President, Warren H. Dolben'30; Vicepresident in charge of program, Newman H. Drake '30; Vice-president in charge of membership, John M. Keck'23; Secretary, Newton S. Foster'28; Treasurer, Edwin E. Kussmaul'25; director of scholarship activities, Miles Pennybacker. Maxwell K. Burckett'21, the retiring President, gave a citation and gift to charter member Gordon G. Holbrook'10 for his loyal and continuous work for the Club.

F. Alexander Magoun'18, Associate Professor of Economics at the Institute, was the toastmaster. He was introduced by President Burckett. The meeting was turned over to Maggie, who introduced the chief speaker, Chester I. Barnard, President of New Jersey Bell Telephone Company. Mr. Barnard gave a serious talk on "Internal Relationships in Indus-trial Relations Administration." The emphasis of his speech was on the lack of authority and recognition of the middle layer, factory superintendent or army colonel.

Professor Magoun then presented Horace S. Ford, Treasurer of M.I.T. Uncle Horace talked on the subject, "Some Aspects of Tech in Wartime." He had not been at the Institute for two or three days and, because of the recent rapid growth, wondered if he would know it when he returned. The old Hangar Gym is down at last, the Club was told. After his talk, he showed a few reels of movies taken at Technology. — A telegram was received from Charles Edison'13, Governor of New Jersey, expressing his regrets at not hew Jersey, expressing his regrets at not being able to attend. — Newton S. Foster '28, Secretary, 73 Daniel Avenue, Rutherford, N.J. Assistant Secretaries: Robert F. Way '33 and Walter L. Wise, Jr., '34, Colgate-Palmolive-Peet Company, 105 Hudson Street Lersey City, N. L. pany, 105 Hudson Street, Jersey City, N.J.

Technology Club of New York

One of the most popular features at the Club in these busy times is the Alarm

Clock Club, which meets for luncheon once every few weeks. The club gets its name from the fact that the speaker's time is limited by an alarm clock, prominently displayed on the speakers' platform and set to go off exactly one-half hour after the speaker begins. This arrangement not only results in pithy, pungent speeches but also insures that after the luncheon the members will be able to reach their places of business with timetable accuracy.

More than 90 members were present at the session on April 14. Walter D. Binger'16, commissioner of borough works in New York City, spoke on "An Engineer's Observations in England." Mr. Binger was appointed by the Secretary of War, first as expert consultant and then as chairman of the National Technological Civil Protection Committee. In that capacity last fall, he flew by bomber to England, where he spent a month studying the effects of bombing and the measures which have been developed for the protection of the civilian population.

Mr. Binger's firsthand description of the bombings on London, the heroic endurance of the people, and the cool and systematic manner in which each problem was met evoked deep interest in the New Yorkers, who find themselves in

the midst of air raid preparations.
Other activities at the Club continue in full swing. The Class of '17 held a wellattended dinner meeting on April 6. The Class of '24 had a luncheon on April 23, and on April 30 a large group of '22 Alumni met at the Club for a class dinner. The periodic '09 luncheon took place on May 2. Because of the war, the larger alumni dinners and monthly meetings have been suspended and smaller gatherings are becoming very popular.
Visitors to New York are invited to

make the Club their headquarters. Our facilities, including reading rooms, restaurants, and bar, are always available to visiting Alumni. Guest cards may be obtained at the Club from the Secretary at any time. — WILLIAM D. NEUBERG '17, Secretary, 24 East 39th Street, New York, N.Y. CONSTANTINE S. DADAKIS'34, Publicity Committee, 644 Riverside Drive, New York, N.Y.

Technology Club of Philadelphia

Ed Healy '23, Vice-president of the Philadelphia Brewing Company, invited the members of the Club to be his guests at a smoker in the clubrooms of his plant

on Monday, March 30, at 8 P.M.
About 80 members attended this informal get-together, with no speeches. We spent a delightful evening sampling Ed's celebrated Manz brew. While the liquid refreshments and the ubiquitous pretzels were being consumed, two sound movies, Alaska and Fish from Hell, were presented. An instructive and enjoyable inspection trip through the brewery was conducted during the evening. — One group was secretly spirited from the clubroom by George Whitwell'14 to discuss and to formulate plans for promoting the M.I.T. Alumni Fund for 1942–1943. Whitwell's committee consists of Henry F. Daley'15, Herbert W. Anderson'15, Walter J. Beadle'17, Philip M. Alden'22, and Edward J. Healy'23. The committee decided to contact Alumni in the Philadelphia area as soon as possible, asking the support of both previous and potential contributors.

This meeting was one of our best in years, and as we broke up around midnight, we gave a sincere vote of appreciation to our host, Ed Healy. — George T. Logan'29, Secretary, 1000 Chestnut Street, Philadelphia, Pa. Henry F. Daley'15, Review Secretary, B. F. Sturtevant Company, Cresmont and Haddon Avenues,

Camden, N.J.

Technology Club of Rhode Island

A meeting of the Club was held on March 25 at the Anawan Club, Rehoboth, Mass. As the fame of these Anawan Club gatherings has spread throughout the state, the limited seating capacity of 35 was quickly taken. Cocktails were served at 6:00 p.m., and soon after that Chef Violette had ready the thick, juicy steaks broiled over the coals, hot Rhode Island johnnycakes, French fried potatoes, broiled whole onions swimming in one of his secret sauces, homemade apple pie, and coffee.

After dinner, our leading raconteurs told a few choice stories before the bridge and poker fiends settled down to proving that engineers care less for a quarter than their right arms. Highballs were served willingly by the kibitzers, who by their ribald remarks made concentration by the participants impossible. Our senior Alumnus, Henry Fiske '91, was heard to say that almost nothing could prevent him from attending an Anawan steak dinner.

Among those present were the following: Henry A. Fiske '91, Preston Richardson '92, Charles F. Tillinghast '95, Edwin E. Nelson' 02, Albert C. Dickerman' 05, Donald G. Robbins' 07, J. Burleigh Cheney '11, Joseph W. Lovell' 13, Frederick D. Murdock' 13, John D. Robertson' 16, Harry Fine' 17, Edward S. Esty' 18, J. Merrill Hanley' 18, Peter J. Woolf' 20, Donald E. Walch' 22, Royal Sterling' 23, Albert B. Donkersley' 24, Leno T. Gregory' 25, Arthur J. Olson' 25, John D. Eldert' 27, William E. Gould, Jr., '28, George E. Colby' 32, J. Edward Philbrick' 32, Earle D. McLeol' 33, Graydon L. Abbot' 34, Leonard Shapiro' 34, Alfred D. Reed' 35, H. Bruce Leslie' 38, C. L. Elmstrom, and George Hallowell, our host. — J. M. Hanley' 18, Secretary, Post Office Box 1366, Providence, R.I.

Technology Club of Puget Sound

The Club met at the College Club of Seattle on March 19. This meeting was a renewal of activities, as there had been but one meeting in the previous year. A social hour was held from six to seven o'clock, with plenty of refreshments and some interesting group discussions. This was followed by a dinner and informal talk of plans for a meeting in June. Two reels of colored movies were shown. The first outlined methods of care of the automobile during the emergency period. The second, entitled Hemlock Harvest, showed modern methods of logging of hemlock timber in the Pacific Northwest. Following the pictures, an informal discussion of shipbuilding problems in the present war was led by Gilbert J. Ackerman'28. Many members employed in the industry contributed their ideas. One of the most interesting features of the discussion was the comparison between construction methods in the first World War and methods of the present time.

Present at the meeting were: W. Scott Matheson'99, George E. Kershaw'03, Ralph L. Dyer'06, Clarence E. Lasher'06, Arthur N. Brambach'21, Winston A. Gardiner'22, James W. Pratt'23, Holland H. Houston'24, James I. Metcalf'24, Gilbert J. Ackerman'28, Harold H. Theiss'29, Charles A. Whitney'29, Edward F. Thieler, Jr., '33, J. Adron Troxell'34, George C. Morrissette'35, James W. Barton'39, Charles A. Lawrence, Jr., '39, Theodore P. Snow'39, Felix Waitkus'39, George W. Hazen'40, Jacob A. Samuelson'40, Paul M. Hammond'41, and Charles J. Shannon'41. — Holland H. Houston'24, Secretary, Rayonier, Inc., 719 White Building, Seattle, Wash.

Technology Club of the Connecticut Valley

The Club held a relaxation dinner on Wednesday, April 15, at the Phono Village, one of Springfield's night clubs. The affair was held primarily to take the minds of the busy Tech Alumni in the district off their work for a night. The whole gang of about 45 had a fried chicken dinner and then sat about and chatted until the floor show at 9:30, after which the party gradually broke up. The meeting was a success although it was merely a social get-together which gave Alumni a chance to swap stories. Ted Kresser'34, one of the Club's able Secretaries, has just been called by Uncle Sam as a lieutenant in the Chemical Warfare Service, and he has reported for duty at Edgewood Ar-senal. The secretarial duties are being carried on by John F. Sexton'41, and the collections at the meeting were eagerly picked up by Frank J. Lange'09.

The following Alumni attended the social meeting: Theodore F. Lange'01, Arthur H. Turner'09, Carl H. Lovejoy'10, Leonard O. Mills'11, Harley M. Riga'15, Elbert M. Lovenberg'16, Olen C. Norris'16, Willard A. Emery'21, Neil A. MacNeil'23, George A. Rowen'23, Howard J. Trombley'23, Henry R. Harris'24, Arthur E. Benson'26, Basil G. Constantine'26, Donald L. Ross'27, Daniel J. O'Connell, Jr.,'29, William J. Harris'30, Arthur D. Roberts'30, Otto C. Kohler'31, Vincent P. Mango'31, Alfred Ziegler'31, Richard M. Cochrane'32, Chauncey C. Day'32, Charles K. Jones'32, Albert D.

King'32, Paul B. Samuelson'32, Francis M. Buresh'34, Benjamin S. Malin'34, Edward F. Gaughan'36, Walter F. Kaufman'38, William F. Pulver'39, Marshall P. Bearce'40, John A. Berges'40, Lawrence E. DiVenuti'40, Harold R. Hobkirk'40, John Kapinos'40, Norman T. Thomas, Jr.,'40, Irving Berman'41, Sanford E. Glick'41, and John F. Sexton'41.—John F. Sexton'41, Secretary, 126 Maplewood Terrace, Springfield, Mass.

Washington Society of the M.I.T.

The March meeting, held as usual at the Y.M.C.A. on the fourth Friday, was well attended. Mert Emerson, our President, said that Robert K. Thulman'22 was chairman of ladies' night, held on April 22 at the Y.W.C.A.

Our speaker, the Honorable John H. Martin, assistant chief of the War Production Board, was introduced as a graduate of the Harvard Business School. Mr. Martin, an up-and-coming young man,

started with a brief reference to the joshing that goes on between M.I.T. and Harvard and gave a demonstration of the latest Technology yell, which is directed

at Harvard boys.

Recalling first World War experiences, Mr. Martin said that the control activities of the organization were originally largely patterned from one of Bernard M. Baruch's books and a book about industry's M-day. Organization was decentralized at its beginning in 1940, with activities covering military, industrial, and civilian priorities. Starting as a defense committee, the organization became the Office of Production Management and later the War Production Board. The measures taken would probably be reversed in order if the job were being done again from scratch, but they consisted, first, of preference ratings, or a "place in line"; second, of a material allocation system at the raw materials level; and third, of curtailment orders, consisting of limitation orders and conservation orders. The third order, though last devised, was probably first in importance and resulted in a great saving of material and in the conversion of industry to war production.

Mr. Martin gave a clear, brief, interesting picture of priorities and national victory and answered many questions freely.

In line with recent meetings, we noted many uniformed men in attendance. — The following M.I.T. men and guests attended the talk and dinner: C. Leonard Brown'88, George W. Stone'89, John G. Crane'90, Joseph W. Clary'96, Proctor L. Dougherty'97, Harry C. Morris'00, Claude E. Patch'02, W. Lorrain Cook'03, Merton L. Emerson'04, Amasa M. Holcombe'04, George H. Shaw'04, George N. Wheat'04, John C. Damon'05, Eugen F. Kriegsman'05, Holman I. Pearl'10, David P. Allen'11, C. Phillips Kerr'11, Carl G. Richmond'11, Henry H. Thompson'13, Ronald M. Wilson'13, Alfred E. Hanson'14, Winthrop C. Swain'17, Allison R. Williams'17, Hamat D. Manuelian'18, Merritt P. Smith'19, John Nolen, Jr.,'20, Wendell P. Sammet'20, Herbert

Kaplan'21, Alan L. Morse'21, Kenneth Bernard'22, Rudolf H. Blatter'22, Samuel H. Conrad'22, William K. MacMahon'22, Edward L. Winslow'22, George D. Fife'24, George E. Lamb'24, Perry C. Maynard'24, Samuel J. Cole'26, Mary O. Soroka'26, Donald F. Horton'27, Thomas J. Scott'27, Roland L. Hutchings'28, M. Waldo Keyes'28, George D. Mock'28, John A. Plugge'29, Nicholas P. Stathis'29, Albert F. Bird'30, John A. Mathews'30, Henry D. Randall, Jr.,'31, C. Wallace Bohrer'33, Utley W. Smith'35, George B. Hunter, Jr.,'37, Woodson W. Baldwin'39, A. Lawrie Fabens, Jr.,'39, John E. Greenhalgh'39, Robert S. Harper'40, Robert W. McKinley'40, William G. Osmun'40, Jack H. Schaun'40, Eugene S. West'40, and J. G. Staack and L. C. Whitacher, guests. — Amasa M. Holcombe'04, Secretary, 428 Munsey Building, Washington, D.C. William K. MacMahon'22, Review Secretary, Rosslyn Gas Company, 3240 Wilson Boulevard, Arlington, Va.

CLASS NOTES

1887

The Secretary has just received news of the death of George Lincoln Norris on April 13 in New York City. We are indebted to Charles E Locke'96, Alumni Secretary, for the following biographical sketch.

George Lincoln Norris was born in Charlestown, Mass., on January 11, 1865. He received his early education in the Boston public schools and the degree of S.B. in the Course in Mining Engineering at the Institute in '87. Following a varied experience with the Pennsylvania Steel Company, the North Chicago Rolling Mills, the Pencoyd Iron Works, the Walter A. Wood Harvester Company, the Great Northern Railway Company, and the Laconia Car Company, he became engineer of tests for the Standard Steel Works at Burnham, Pa. Shortly after the organization of the American Vanadium Corporation, he left the Standard Steel Works to carry forward the development and promotion of vanadium steels. His services with the company were continuous except for the period of World War I, when he was chief metallurgist with the rank of captain in the Signal Corps of the Army and, later, manager of the Pittsburgh district, Bureau of Aircraft Production, with the rank of major.

Norris had been a member of the American Society for Testing Materials since 1902 and participated actively in many projects. He had been a member of the society's committee B-2 on nonferrous metals and alloys since 1910, and he also served on committee A-1 on steel for 28 years. In the field of steel, his subcommittee work concerned such projects as springs, forgings, and castings. He was also a member of the following societies and clubs: American Society for Metals, Society of Automotive Engineers, American Institute of Mining and Metallurgical Engineers, American Iron and Steel In-

stitute, British Iron and Steel Institute, and the Railroad Club.

On January 10, Mr. Norris was tendered a luncheon by officers and department heads of the Vanadium Corporation of America as a tribute to his long years of service. The day was the thirty-second anniversary of his association with the company and its predecessor, the American Vanadium Company, and the following day was the seventy-fifth anniversary of his birth. He is survived by his widow Rachael P. Norris, 9 Tanglewylde Avenue, Bronxville, N.Y., and a brother Walter H. Norris '93.

Word has been received of the death of another classmate, Joseph P. Loud, of Boston, Mass., who passed away on the same day as George Norris, April 13. No details have been received. — NATHAN-IEL T. VERY, Secretary, 15 Dearborn Street, Salem, Mass.

1888

We are fortunate in having for our class president a man like Ned Webster, who believes in having our class dinner 'as usual" at his beautiful home. If you have not already done so, notify Miss C. J. Brown, Webster's secretary, that you are coming, so that the correct number of chairs may be placed around the long table in the big dining room. You may arrive any time after 5:30 p.m. on Tuesday, June 2. The parade through the garden starts at 6:00, and we sit down to dinner at 7:00. Our President has something new and special to tell you. The estate is at 307 Hammond Street, Chestnut Hill, Mass. If you do not drive, take a Reservoir-Beacon streetcar. One leaves Park Street station every 10 minutes and connects with the Waban bus at Cleveland Circle at 5:07 and 6:07 P.M. Get off at Beacon and Hammond Streets. From there you can walk to Webster's estate in three minutes.

Fred Ellis wrote as follows: "You asked how I happened to go to Bridgeton, N.J., in 1892. During my summer vacations I used to work for my father, laying tar concrete walks. A real-estate dealer by the name of DuBois visited Melrose and liked the looks of the walks. He asked my father how he could have some laid in Bridgeton. On my wedding trip, we went to Bridgeton to look over the job, made arrangements to do it, came home, packed up the tools and the men, and went there for eight weeks, from June to August. It is the hottest place I ever was in. We slept with pillows on the window sill. When the job was finished, we spent all the profits on a vacation at Cape May, which we thought was a wonderful place. At that time, Bridgeton was principally interested in glassmaking. There was also an old-fashioned woolen mill and a factory where iron pipe and cut nails were made. Some of the people were interested in the ovster business, and they used to bring the oysters up into the fresh water of the river to fatten. . .

"I drove out to see Eastman on April 2. He is as smiling as ever, but he has trouble in navigating. He still drives the Model T. About a month ago in Lowell someone bumped into him and knocked him out through the door onto the street. With the exception of a few small cuts on his face, he was uninjured."

The following editorial about Ellis appeared in the Melrose, Mass., Free Press of February 5: "The resignation of Fred E. Ellis, Engineer and Superintendent of Public Works for 11 years brings to a close the career of a man eminently fitted for the post he held by virtue of a fine education and life-long experience in the field of engineering. His knowledge of city problems, the skill used in solving them, his independence of mind and action were all characteristics which, though they did not always endear him to the general public, enabled him to win the plaudits of those who realized the efficiency with which the Public Works Department has been run. No one in the city merits more the thanks and appreciation of the citizens of Melrose than Fred E. Ellis whose devotion to his job has given Melrose so many years of outstanding service.

John Cornelius Runkle, son of John D. Runkle who was Acting President of the Institute from 1868–1870 and President from 1870–1878 and a professor in the Department of Mathematics for 37 years, is undoubtedly one of the most highly educated members of our Class. After leaving Technology, he took many courses at Harvard, where he is a member of the class of 1906. John wrote the following for the records of his Harvard class: "To begin with, I will confess that in real life I am a member of the class of '88 M.I.T., so that Harvard'06 might almost be considered an alias. But if it be an alias, it is at any rate a pleasant and legitimate one. . . .

"After leaving the Institute, I took a voyage around the Cape of Good Hope in the full-rigged ship, THOMAS DANA of Boston, and spent some thirteen years in business, mostly in New York. Then in 1899, business brought me back to Boston, where I found my young brother Gordon, just entering Harvard in the class of 1903. Feeling that a little more collegiate education might do me no harm, I joined him, and for the next seven years I took a nine o'clock lecture every morning before going to the office, in other words, one course a year.

"In 1906 this procedure was interrupted by my marriage, which happy event gave me not only my excellent wife but also the pleasure of becoming a member of the class of 1906. If I had stayed a bachelor, I should most certainly have missed being a member of this class, for as far as I know I should have continued my Harvard education as long as the nine o'clock courses held out, which would very likely have been the rest of my life."

Did you read your Secretary's article, "The Cruise of the Cadet," in the Institute Gazette section of the May issue of The Review? — Bertrand R. T. Collins, Secretary, Chebeague Island, Maine. Sanford E. Thompson, Assistant Secretary, The Thompson and Lichtner Company, Inc., 620 Newbury Street, Boston Mass.

1889

Edward L. Brown, retired Boston broker, died on March 13 at his home at 54 University Road, Brookline. The following notice is from the Boston Herald.

"... Mr. Brown was a graduate of Boston Latin School and M.I.T., class of 1889. He leaves three sons, Charles F., Eliott W., and Edward Lyman Brown, Jr. Mrs. Brown died in 1923. . . ."

Charles Cheney died on April 11. The following account of his life is from the New York Sunday *Times:* "Charles Cheney, chairman of the board of directors of Cheney Brothers, silk manufacturers, until his retirement in 1932, died . . . at his home here after a brief illness. His age was 75. He was a former president of the Silk Association of America and a former chairman of the National Industrial Conference Board. Educated at St. Paul's School, Concord, N.H., and the Massachusetts Institute of Technology, Mr. Cheney entered the employ of Cheney Brothers as an apprentice and steadily rose in position until he became president and finally chairman of the board. He leaves a widow, Mrs. Mary Bell Cheney; a son, Ward Cheney of New York; and three daughters, Mrs. Rodney G. Dennis and Mrs. Harry Watkins of New York and Mrs. John H. Humpstone of Baltimore

"Born in Hartford, Conn., on June 7, 1866, a son of Frank Woodbridge and Mary Bushnell Cheney, Mr. Cheney attended St. Paul's School, Concord, N.H., from 1882 to 1885, and then spent a year at the Massachusetts Institute of Technology before beginning work as an apprentice with Cheney Brothers in South Manchester. In 1893 Mr. Cheney married Mary Brainard. His second wife, the former Mary Bell, he married in 1901. Mrs. Rodney G. Dennis is a daughter of the

first marriage. . .

The following letter has been received from George A. Orrok: "I did not answer your notice of the get-together at your house before because I hoped that I might be able to come, but unfortunately could not. I accepted an appointment by President Dodds of Princeton University to be the five-year member on his advisory board on the courses in the engineering school at Princeton. This board held a meeting on the same date and, as I had not been able to attend the previous one because of some government work in Washington, I concluded that I had better go to Princeton instead of coming over to Boston. We have been very busy in the office, having had at least one important government job and expecting a number of others. We are going strong, and the weight of advancing years has not seriously interfered with our capacity for work. I wish you would give my best regards to all of the boys." - The Secretary has also received a letter from W. W. Lewis, who wintered at Orlando, Fla., "until the grass turned green." Parker Fiske has been ill, but reports are WALTER that he is considerably better. H. Kilham, Secretary, 126 Newbury Street, Boston, Mass.

1891

Fred Blanchard is now located at Pelham Hall, 1284 Beacon Street, Brookline, Mass. He is much better, and we hope he will soon be at his regular duties. Steve Bowen is back in Boston. Ambrose Walker will be back at his home in Salem by the time you read this.

Charlie Ricker left Havana in April to spend some time with his son, Charles, Jr., '28, in Cleveland. He went to his farm in western New York, as he says, "to try and get some work started and put the place in shape to live in." Charlie's Ohio address is 3701 Latimore Road, Shaker Heights. Last year he said would be his last winter in Havana. When will any of us go to Havana again as tourists, and what would be the use without Charlie

to welcome and entertain us? Charlie Garrison wrote: "Barney's death brings a pang of sorrow. It opens up a long vista of memory of a beautiful spirit. . . . Think of the first attack on continental United States coming in Santa Barbara County about 12 miles from us. Bob has had a long siege of iritis, and is going to Johns Hopkins Hospital to see if they can find the root of the trouble. He is very busy with his petroleum engineering work. For one client he put 60 wells on a single piece of property near Huntington Beach. We went to San Marino to spend a few days with him, going by train as we are saving our tires. That was the first time we've gone by train in ten years or more! We still have our Tuesday Music Club.

"I congratulate you on all the good work you did at the reunion. Gorham Dana asked if I could give him Mrs. Edward Cunningham's address. She has left these parts and is around Boston. [Hotel Lincolnshire. Ed.] Tell the air raid warden he'd better come out here

if he is looking for bombs!"

Gorham Dana took the wardens' course in Brookline and qualified. They thought he was too old but he convinced them otherwise. Gorham has proved that there are many useful tasks even for those on

the retired list.

Mrs. Charles Aiken, her son Dan, and Charlie's daughter Dorothy Johnson with her husband, and son called on your Secretary in April. Mrs. Aiken has sold the old mansion on Webster Lake, Franklin, N.H., and will build a new home on some of their land which overlooks the lake. Dorothy now has 10 de luxe cabins and a tea house on Webster Lake. It would be hard to find a nicer place of this kind.

Another letter has been received from Billy Greer, who said: "It is a real joy to have your letter telling of the class reunion and bringing a welcome to your home. I do expect to come east, probably to Boston, for a trip to the Brockton district. My location will be very uncertain for several months. The copy of the fiftieth reunion book did get to me, and what a book! But if '91 is not worthy of such a book, who is?"

The following changes in address have been received from the Register of Former Students: Horace L. Brand, 111 West Division Street, Chicago, Ill.; Robert C. Spencer, 1814 Woodward, Orlando, Fla.; Arthur C. Smith, Poultry Division, University Farm, St. Paul, Minn.; Mrs. Alfred B. Robinson, Apartment 4E, 220 East 73rd Street, New York, N.Y.; Dr. Allan Ramsey, 2409 Grand View Avenue, Cincinnati, Ohio; James Swan, 2700 O Street, Northwest, Washington, D.C. — HENRY A. FISKE, Secretary, Grinnell Company, Inc., 260 West Exchange Street, Providence, R.I.

1892

A letter from Frederic H. Harvey has come from his home at Galt, Calif. Harvey is in the mining department, United States Army, Corps of Engineers. He has been vice-president of the California Hydraulic Mining Association and a mining and consulting engineer in the United States and Mexico.

Frank E. Perkins is retired and is living at Mount Vernon, N.Y. Perkins has been the professor in charge of architectural design at the University of Pennsylvania; chief engineer of the United States Picric Acid plant, Brunswick, Ga.; acting assistant state architect, New York; and deputy superintendent of school buildings of the city of New York. He is a graduate of the Ecole des Beaux Arts, Paris, France.

Arthur M. Worthington is still a practicing physician in Dedham, Mass. Worthington was graduated cum laude from the Harvard Medical School in 1896, after which he served as a medical intern in Boston City Hospital for two years. He was an assistant in bacteriology in the Harvard Medical School from 1905 to 1912, and started the practice of medicine in Dedham in 1899 following a year of practice in West Roxbury. Worthington has been bacteriologist for the Dedham Health Department and president of the Dedham Historical Society.

George F. Rowell has been an engineer with Day and Zimmerman of Philadelphia, Pa., for the last 25 years. Previously he was resident engineer for John Bogart on the Hales Bar Hydroelectric Development on the Tennessee River.—Charles L. Nutter is still the treasurer of the Old Colony Foundry Company. He is president of the East Bridgewater Cooperative Bank and vice-president of the East Bridgewater Savings Bank.

Arthur J. Ober has retired from active service with the rank of senior engineer. He was in the United States Engineers offices in Newport and Providence, R.I., from 1897-1940. His major accomplishments have been coast fortification construction and maintenance, and river and harbor improvements. He had direct charge of design, construction, and maintenance of harbor defenses of Narragansett Bay and New Bedford Harbor, as well as charge of numerous investigations and surveys. He prepared reports of flood control for several rivers. During the last World War he was on active duty as a major in the Army. - A letter has come from Horace C. Hartshorn from whom we had heard nothing since our graduation. Hartshorn is now retired from business.

He was a partner of Hartshorn and Walter, a firm of accountants and auditors.

Gale T. Forbush is retired United States manager and president of the Royal Exchange Assurance group of fire and marine and casualty insurance companies, trustee of the Leonard Morse Hospital, trustee of the Insurance Library Association of Boston, and director of the Provident Fire Insurance Company. His principal business activities have been in the engineering, administrative, and executive departments of fire and casualty insurance companies. He has two children and six grandchildren.

Allen French has kept busy by writing a couple of dozen books. He has written novels, juveniles, and historical books. His best book is probably *The First Year of the American Revolution*. For some years he has been president of the Concord Antiquarian Society and also chairman of the

Concord Library Committee.

William W. Green is living at Los Gatos, Calif. In 1907 he left a position that he had held for 12 years with the city of Chicago and went to Texas to engage in rice growing. He followed this line for seven years in Texas and seven years in California. He states that he reached comparative affluence twice and was thrown down flat both times, first by a Gulf hurricane in Texas and then by the 'farmer's depression' of 1920." During these 14 years he maintained an office and did such engineering work as came to him. Since 1920 he has depended entirely upon professional work, and he designed and oversaw the construction of several systems for irrigation and drainage districts, laid out miles of roads, put in miles of sewers, and paved miles of city streets. Some of these projects were of considerable importance. He has also had a fling at mining engineering. Lately he has been working on an airport design, and he says, "When I recover from an appendectomy, I expect to take a position with the Civic Aeronautics Administra-Green has ventured into still another field and is the author of Natural Law in the Economics World, a book published by the Christopher Publishing House in Boston. He has three children and eight grandchildren.

Edward P. Whitman, from whom we had not heard for many years, died on February 17, 1940. Green, who sent me the obituary notice, said: "Whitman was a dear friend and near neighbor for six years. He carried through to the end with the vitality and high spirits that made him the 'redheaded cutup' of our Class. Whitman had a distinguished talent for architecture which won for him a notable professional reputation." — Charles F. Park, Secretary, Room 5-111, M.I.T.,

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Cambridge, Mass.

1895

Dickerman has been in Mexico again, this time as a member of the staff of the United States expropriated oil properties representation. He wrote that he had served about two and a half months in this connection and expected to return to the States about the middle of April.

In his letter he said: "Have had a marvelous 1,800 miles of auto trips to the oil fields near Tampico, thence back across the continent to Guadalajara on the Pacific slope, and back to Mexico City. Much of the way was through native Indian country, though everywhere the old Spaniards impressed their language and religion on the natives. Unexcelled highways reach to 10,000 feet above sea level in some stupendous mountain scenery. All is dry and semibarren, except land above 8,000 feet. In some areas fine timber is growing. This is a country of fancy tiles, an old Spanish art."

Clifford Bartlett Sanborn, presiding justice of the District Court of Northern Norfolk, state of Massachusetts, passed away at his home, 53 Beech Street, Norwood, Mass., on April 1. Cliff Sanborn was graduated from Course IX at Technology, and in 1896 he entered Harvard Law School, from which he was gradu-

ated with the degree of LL.B.

For three years following Harvard he practiced law in Boston and his home town of Norwood. In late 1902 he became a member of the law firm of Sanborn and Squires. In 1907 he secured the clerkship of the district court of Northern Norfolk, at Dedham. During 1913–1914 he was a member of the Massachusetts House of Representatives. In Norwood, he was at one time chairman of the school board, as well as secretary and a member of the sewer commission which installed the sewer system in Norwood. He served as moderator in Norwood and also as chairman of its finance commission.

During World War I, he was chairman of the associate members of the legal advisory board in connection with the draft. Cliff was nominated by President Coolidge to his judgeship, thereby gaining the distinction of "His Honor." Cliff and Mrs. Sanborn attended the class reunion in 1935, at the Oyster Harbors Club on the

Cape

John Carleton Sherman died on April 12. Sherman attended Victoria University at Liverpool, England, during 1889-1891, and then transferred to Technology. After leaving the Institute, he took a year of postgraduate work at Johns Hopkins University. John was deputy United States consul at Liverpool, 1890-1892; associate editor of Munsey's Magazine, 1895-1898; assistant editor of Youth's Companion, Boston, 1898-1900; and editor of trade publications of the Westinghouse company, Pittsburgh, Pa., 1900. During 1901, he compiled and edited many of the textbooks of the American School of Correspondence. Later he took care of the advertising of a number of paper and pulp companies. Recently he was engineering consultant for paper and pulp manufacturers in the district of Attleboro, Mass.

In 1912, Governor Foss of Massachusetts appointed Sherman as his private secretary. During Foss's term in office, John was looked upon as his confidential adviser, and when a bureau of experts was named to investigate and study state departments and institutions, Sherman was placed in charge. When he had some spare

moments, he was active in Freemasonry and the Delta Upsilon Fraternity.

We have learned recently that Oscar Carpenter A. Child, of 840 Grand Concourse, Bronx, N.Y., died on November 30. Child was with the Class for a short period. In 1925, our files recorded his business connection as president of Child Acme Press and Cutter Company, of 261 Broadway, New York.—Luther K. Yoder, Secretary, 69 Pleasant Street, Ayer, Mass.

1896

At the Alumni Banquet at the Hotel Statler on April 25, '96 turned out eight men: Davis, Jim Driscoll, Guptill, Hersey, P. B. Howard, Locke, Rockwell, and Tucker.

Hersey reported that he had just received a long letter from Myron Fuller. Myron and his wife left last October for an auto trip during which they visited various Mexican border cities in Texas and then headed for Florida, where they roamed around more or less during the winter. They had planned to follow a devious route in the Mississippi Valley back to their home town of Brockton, Mass., during the spring, but with the developments in the tire and gasoline situation, they decided to remain in the South and holed in at Long Beach, Miss., in a four-room bungalow. There Myron figured that he would be piling up less mileage than in the North, but he could, nevertheless, continue to drive around a bit.

Guptill said that he had given up active management of his garage business in Boston and has leased it to other parties. He spends most of his time in Harvard, Mass., devoting his attention to his orcharding interests there. He thought he might also do something this season in

the way of a war garden.

Charlie Tucker and Bertha called upon the Secretary on the first day of April and reported that signs of spring were appearing at their ranch in North Andover, Mass. Charlie was expecting a good season with his apple and peach orchard, and of course his dairy business was continuing to keep him busy. - A letter from Mark Allen in Detroit told that he took fine care of John Rockwell during John's passage through that city the last week of March. Mark also sent the Secretary a copy of the '97 'Technique' in response to the Secretary's appeal in the April issue of The Review, but Mark proved to be a little slow on the trigger, as another Alumnus had already responded ahead of him. Mark's contribution was therefore returned. He said that his son Richard had joined up with the Army and left for an officers' training camp early in April. Mark wanted especially to know whether anybody had heard from Billy Clifford. As far as the Secretary knows, Billy is still running his plantation in Virginia. If any classmate has further or later information, it will be most welcome.

A letter from Admiral Bakenhus told some of the recent events of his continually busy life. Reuben just doesn't get out of harness either night or day, and a

day or two before he wrote he had been attending a dinner of the Military Order of the World War. — The Secretary also has been in telephone communication with Harry Baldwin, Gene Hultman, George Hewins, and Myron Pierce. All of them do not seem to realize that there are younger men these days to take over. They continue to labor on just the same. Baldwin is particularly busy with his work as chairman of the local draft board in Swampscott. George Hewins said that Charlie Nevin had not had a very good winter and had spent some time in the hospital but is now on the mend.

From Obie Denison'11 has come a note that James' H. Fuller, of the United States Naval Reserve, son of our classmate Bob Fuller, had completed his preliminary training at the United States Naval Air Station in Squantum and had moved on to the United States Naval Reserve Aviation Base, Atlanta, Ga., to

continue his training.

Louis S. Kingman died August 21, 1941. He was in the Course in Mechanical Engineering during our freshman year and also attended the University of Illinois. He was born on November 17, 1869, in Peoria, Ill., the son of Martin Kingman. His life was spent in Peoria in various capacities with the Kingman Plow Company, until it went out of business at the end of 1916 after an existence, including some early years under some other names, of exactly 50 years. The company was founded by Martin Kingman on January 1, 1867. After Louis retired and until his death, he continued as trustee of the estate of Martin Kingman.

Harrison S. Taft died in Providence, R.I., on April 3. He was born in Providence in 1869, the son of Edward P. and Elisa W. Taft. He received his S.B. degree in Mechanical Engineering with our Class and the next year he received a similar degree in Naval Architecture with the Class of '97. He had previously received a Ph.B. from Brown University in

1892.

From 1897 to 1938, Taft had a long record of responsible positions in various lines, including shipbuilding, tunnel contracting and construction, railroad work, canal work, highway construction, bridge construction, dredge work, filtration plant work, and other lines. He was a most active individual. During the first World War, he expedited many construc-tion projects and dry docks. He devised standard modes for the construction of concrete dry docks for the Navy. From 1932-1936 he lived in scenic Highland County, Va., and did mountain climbing, surveying, platting, acted as a tourist guide, and helped in building a community swimming pool. After 1938 he began to do research work covering historical lands and their owners around Provincetown, Mass., and the last year or two before his death he had an office in Providence, doing field work and office consultation as a construction engineer.

Taft was the author of numerous papers covering a wide range of subjects. Many of them dealt with concrete and other types of construction. He was the author

of Shipbuilding Standards and Standard Tables for Estimating the Cost of Concrete. Numerous patents were issued to him. A year or more ago he donated to M.I.T. a set of handmade pictures covering various construction undertakings and a set of yachting scenes. These pictures are now in the Department of Civil Engineering and in the Francis Russell Hart Nautical Museum.

Arthur P. Underhill died on April 1 at his home in Newton Center. He had not been in the best of health for several months and had made a trip out west to get away from business. He had returned and was carrying on about as usual. His death, therefore, came rather suddenly. Underhill was born on December 17, 1872, in Boston, the son of Arthur B. and Hannah M. (Perley) Underhill. He married Marion B. Stone on October 12, 1897. His daughter Ruth (now Mrs. Edward F. Bowditch) was born on November 12, 1900, and his daughter Nancy (now Mrs. Francis W. Paige) was born on April 22, 1905. There are two grandchildren: Nancy Paige, born in 1934, and Frank Paige,

born in 1936.

For four years after his graduation, Underhill was with the Elektron Manufacturing Company, successively as engineer, salesman, and manager of the Philadelphia office. From 1900-1913, he was Boston representative of the Knox Automobile Company. Then followed four years during which he was assistant to the general manager of the Lake Tahoe Railway and Transportation Company at Tahoe, Calif. He then returned to Boston, and from 1917-1922 he was treasurer of the Chandler Motors of New England, and later he was vice-president of the Boston Overland Company. For the last ten years or more of his life he was treasurer of the Coombs Motor Company in Watertown. Perl, as we all called him, was really one of Boston's pioneer automobile men. As one of the first men of this section of the country to foresee the importance of automobile transportation, he organized the Reed-Underhill Company to handle Knox and Stearns cars. He began this company with George C. Reed when bicycle salesrooms predominated in Boston. He was prominent in the development of the Knox factory in Springfield and in Knox sales through the country. He had the distinction of being the first man in Boston to contract for the construction of a building for a motor salesroom and service station. He was one of the few men who personally guaranteed the expenses of the first Boston auto show, and he was also one of the founders and for many years an officer of the Boston Automobile Dealers Association and the Bay State Automobile Association. He was a member of the Boston Athletic Association and the Charles River Country Club. His funeral services were attended by R. A. Davis, James Driscoll, C. E Locke, H. C. Lythgoe, John A. Rockwell, and Lucius S. Tyler.

As a regular attendant at class gatherings, Perl will be greatly missed. His genial disposition and his smiling face were always the same. No one could pos-

sibly be of a more even temperament. He was quiet in his way and never seemed to be hurrying, but nevertheless he made great accomplishments and stood out in our Class. Mrs. Underhill wrote the following poem, which was read at the funeral services. It seems particularly ap-plicable to Perl Underhill. "I can but feel now Life is done/And he has all his battles won/That only Beauty lies ahead/ And he has no more pain to dread/That if the sunsets here are rare/The sunrise there will not compare/And the new country, never dim/Holds so much glory facing him/That never will he want to turn/To this dull Earth, he once called Home." - CHARLES E LOCKE, Secretary, Room 8-109, M.I.T., Cambridge, Mass. JOHN A. ROCKWELL, Assistant Secretary, 24 Garden Street, Cambridge, Mass.

1897

The Secretary has received another letter from A. H. Pugh, a colonel, of the ordnance reserve auxiliary of Cincinnati, Ohio. Harry is an associate editor of the monthly magazine of the auxiliary and writes up the technical section. He says that he is keeping up his mathematics, which is probably more than anyone else in the Class is doing. He writes that the personnel of the war office in Cincinnati has increased from one officer and one stenographer in 1939 to 2,600 civilians and 63 officers in 1942. Go to it, Harry, to the glory of the Class and the good of the United States.

At the annual meeting of the northeastern section of the American Society of Civil Engineers in Boston recently, L. S. Cowles, I, was awarded a certificate of life membership in recognition of his 35 years of continuous membership in the society. The presentation was made at a dinner at the Engineers Club in Boston, at which were present the president, secretary, and other officials of the parent

society.

Rodolphus A. Swan, VII, died suddenly of heart trouble at his home in New Bedford, Mass., on April 1, aged 66 years. He had just returned from a meeting of the ordnance committee. At the time of his death he was a city councilor. Swan joined the staff of the New Bedford Mercury in 1926. Since then he had always been connected with newspaper work. For many years he was a correspondent for the Boston Transcript and at the time of his death represented the Boston Globe. For many years he was active in politics in his home city, being affiliated with the Democratic party. He was a member of the Democratic city committee, a member of the licensing board for 11 years, and at one time its chairman. For 16 years he held the office of city clerk. In the first World War, he was the clerk of the draft board, and during the present war he was secretary of the draft appeals board. His long associations with the newspaper and political interests of New Bedford attest to the esteem in which he was held by his fellow townsmen, and his passing will be greatly regretted. He was always an enthusiastic attendant at class reunions, and he will

be very greatly missed at our future gatherings. He leaves his widow and two sons. Rodolphus, Jr., is a member

of the Class of '29, M.I.T.

In order to make this column more interesting and up-to-date, the Secretary wishes that his classmates would send him information relative to their participation in any line connected with the war. Surely some of the Class are in government service. We should all like to know about it. — John A. Collins, Jr., Secretary, 20 Quincy Street, Lawrence, Mass.

1900

Through the Register of Former Students, we learned of the death of Frederick W. Witherell, XI, of 1628 Collingwood Boulevard, Toledo, Ohio, on

September 20, 1940.

Charles E Locke'96, Secretary of the Alumni Association, writes us that D. S. Johnson, mining engineer of Tonopah, Nev., examined molybdenum prospects in Idaho and chrome iron deposits in California during the fall. Commenting on the tire shortage, Johnson mentioned that he covered 18,000 miles by automo-

bile during 1941.

Isaac Osgood died on March 24. The Lawrence Tribune carried the following notice: "Isaac Osgood, retired manager of the Boston Board of Fire Underwriters and a civic leader in the town of North Andover, died . . . at his home 46 Osgood Street, North Andover. Mr. Osgood was a member of one of the pioneer families of the suburban town, where he was born on January 3, 1879, the son of the late Isaac F. and Lora (White) Osgood. He was a graduate of Phillips Academy, Andover, Mass. and of . . . Technology, with the class of 1900, where he received degrees in mechanical and electrical engineering. For two years, Mr. Osgood was with the General Electric Company in Schenectady, N.Y. after which he was employed by the Lawrence Gas Company for a period of three years before he entered the insurance engineering field in 1907. From 1907 to 1913, Mr. Osgood was with the old Underwriters Bureau of New England, when he became an engineer with the Boston Board. He was made assistant manager of the board in 1926 and became manager in 1936. Among the numerous civic activities of Mr. Osgood were: Charter membership and treasurership of the North Andover Historical Society; former membership on the North Andover Board of Public Works and several town committees; trusteeship of Stevens Memorial Library; and membership on the budget committee of the Greater Lawrence Community Chest. He was a member of the North Parish Church (Unitarian) of North Andover, and held different offices in the parish for many years. Survivors are a daughter, Charlotte, wife of John E. Bennet, Jr. of Chatham, N. J.; three sons, Isaac Osgood, Jr. of Reading; John B. Osgood of North Andover, assistant editor of the Lawrence Daily Eagle, and Samuel Osgood of North Andover; and several grandchildren. . . .

James H. Batcheller has moved to Point Lookout, Corvallis, Ore.; Harold S. Conant is at 30A Forest Avenue, Brockton, Mass.; and Francis T. Fitch is in Machias, Maine. — C. Burton Cotting, Secretary, 111 Devonshire Street, Boston, Mass.

1901

As is well known to his classmates, our Assistant Secretary and class member of the Alumni Council, Theodore Taft, has been Associate Professor of Heat Engineering at M.I.T. for a number of years. He has been at the Institute since 1903 and is, therefore, one of the old-timers. He writes: "I have also been teaching at Lowell Institute since 1906. As a great deal of my work is in connection with power plant engineering, I see quite a number of power plant engineers around Boston. Occasionally I give lectures to different groups and associations of engineers, and I am the president of the Plant Engineers' Club of Boston. I am also doing some work for the state in connection with civil service examinations." - Willard Dow, our former class member of the Alumni Council, reports that he has recently transferred from the office of District Engineer, St. Louis, where he was chief project auditor with United States Engineers, to the Sangamon Ordnance Plant, Springfield, Ill., where he is field auditor with the Ordnance Department.

Ralph Whitman has been a commissioned officer in the United States Navy since 1907. His rank is rear admiral, Civil Engineer Corps, United States Navy. He writes that his present station and duties are as district public works officer in the Third Naval District, which includes the states of New York and Connecticut and certain counties in the northern half of New Jersey. Ralph and his family were having dinner at the home of Ralph Stearns in Bronxville on Sunday, December 7, when the radio announcement of the Japanese attack on Pearl Harbor necessitated his reporting to headquarters at once. Whitman states that last fall Stearns, R. E. Bakenhus '96, and he were made life members of the American Society of Civil Engineers. The fact was observed at a simple, very pleasant ceremony at the Engineers Club in New York City, under the auspices of the directors of that club and of the metropolitan section of the

We regretfully report the death of Charles W. Adams, VI, in Montpelier Vt., in August, 1941, after a long illness.

Here are some items in the same brief form that they came to us: Ed Seaver is New England manager of the Foster Wheeler Corporation, Boston. He lives in Needham, Mass. Howard Wood is retired, but he is busy with trusteeships in three organizations, "furnishing plenty of work but no pay," he says. William Farnham is retired after many years as traffic engineer for the American Telephone and Telegraph Company and lives in East Orange, N.J. He usually spends the winter in California or Florida. Archibald Klieves has retired from his architectural work and lives in Wheeling, W.Va. He is

commissioner of the Wheeling Housing Authority. Chester Chubb lives in San Antonio, Texas, and is president and director of the San Antonio Public Service Company, president and director of South Texas Ice Company, and director of the American Light and Traction Company.

Joseph Catlin is vice-president of the Wood Newspaper Machine Corporation of Plainfield, N.J., with offices in New York City. The corporation is engaged in manufacturing defense orders. William Blauvelt has been retired for some time, after long service with the American Telephone and Telegraph Company. He lives most of the year in Hingham, Mass., but passes the winter in St. Petersburg, Fla. Ralph Stearns is with Mead and Scheidenhelm, consulting hydraulic engineers, New York City. He lives in Bronxville, N.Y. When heard from last, he was spending some time in Pompano, Fla. - GUY C. PETERSON, Secretary, 788 Riverside Drive, New York, N.Y. Theo-DORE H. TAFT, Assistant Secretary, Room 3-266, M.I.T., Cambridge, Mass.

1903

To complete our records in regard to the deaths of Bennett, III, Sherman, III, and Hirons, IV, briefly referred to in the April notes, we add further facts. Mr. J. S. Hunter of the Compania Minera Aquilar from Buenos Aires stated that a few weeks prior to his death Mr. Bennett had been named as first president of the M.I.T. Club of Buenos Aires. A biographical sketch briefly outlined various positions held by him in the past and stated that he developed the Aquilar lead and zinc mine in the province of Jujuy, the largest lead-zinc producer in Argentina. He was "particularly interested in marksmanship and was a winner of many prizes at the Tiro Federal in Jujuy.'

Mrs. Sherman has very kindly supplied the following information about Frank A., who died in Bethel, Maine on September 10. He had not been in good health for the previous two years. Following his graduation from Course III, Frank went to California to look over a gold mine, and while there he contracted a fever. On his return his father persuaded him to enter the firm of R. A. Sherman's Sons Company, building contractors. Upon its reorganization and incorporation in 1904, Frank became secretary and treasurer. He was identified with a business rich in accomplishment that had been managed under the family name for more than 50 years. The firm erected many structures throughout southern Rhode Island, including the Memorial Library in Westerly. Sherman was married in 1905, and leaves his widow Mrs. Ruth E. Miller Sherman, a daughter Mrs. B. M. Hiscox, and a brother Charles E. Sherman.

Frederic C. Hirons, IV, a practicing architect in New York City since 1909, died there on January 23. He was born in Birmingham, England, came to the United States as a youth, was graduated with us, and was a student at the Beaux Arts School in Paris from 1904–1909, when he returned to New York. In 1926, he was named a Chevalier of the French Legion

of Honor in recognition of his services for architectural education. He was a founder of the Beaux Arts Institute of Design in New York and was president of the Beaux Arts Society of Architects from 1937-1939. He is identified with many architectural works, among the best known being the George Rogers Clark Memorial at Vincennes, Ind.; the Worcester War Memorial Auditorium at Worcester, Mass.; and the Rockland County Court House in New York City. He collaborated in the design of the Electrical Production Building at the New York World's Fair. He had been an honorary professor of architecture of Yale and Columbia Universities. Hirons is survived by a sister, Mrs. Edith H. Van Amringe of Boston, and two brothers, Arthur W. Hirons and Frank K. Hirons.

In replying to our notice of the class dinner, George Capelle wrote that he had been in the hospital with pneumonia for ten weeks during the winter but came home on February 26. He added that he would "probably attend the next meet-We hope so. - Frank Farnham is back in Boston as representative of a paint concern, after being away from the Hub for several years. We were glad to

see him again.

An interesting letter from H. S. Morse, I, at Indianapolis, enclosed a clipping from the Indianapolis Times. The article, written by Lowell Nussbaum, amusingly depicts Morse, his habits, his characteristics, his work, and so forth, and includes all the details of his daily life, except what he has for breakfast. letter from Gleason stated that he has been "on the shelf" following an operation more than a year ago. He said: "The year has not been entirely wasted. I have had lots of time to think, and, I hope, acquire a perspective that will enable me to understand many things better. Let us all take hold to the best of our ability and give of ourselves to the utmost, that our civilization may not perish. Perhaps it isn't a perfect civilization, but it has been pretty good to most of us, and we would like to have those we leave behind have some of it, too." This is a good thought to close on. — Frederic A. Eustis, Secretary, 131 State Street, Boston, Mass. James A. Cushman, Assistant Secretary, 441 Stuart Street, Boston, Mass.

1905

Claude A. Anderson, XIII, is a welcome stranger to this column. He almost makes up for lost time with this story: "I have a married daughter now living in Auburndale, and that has given Mrs. Anderson and myself the opportunity to get back to Beantown every once in a while. Incidentally, that place holds as much lure for me as ever. But back to the first thought - a couple of years ago we ran over to the Institute and were fortunate in finding Henry Keith, Head of the Department of Naval Architecture, in his office. We had a fine visit, and he dug up my old thesis. At another time Mrs. Anderson and I went to Cohasset for a shore dinner and we looked up Gib Tower, who had just been made fire chief. We

spent a good part of the afternoon with him, looking over the interesting old house that has been in his family for years. Then another time I looked up Father Caine and found he was rector of St. Margaret's Church in Brighton, covering the very section in which we lived from 1909-1912 and where one of the children was born. He is much the same, except that his hair is almost white.

I see Ammen only once in a great while. He has an office here, but when Maurice B. Landers, my old roommate, was in a few months ago and wanted to see Ammen, I called up and learned that he is spending most of his time now with the General Electric Company in Cleveland. Piggy Bartlett is still with the Campbell Soup Company in Camden, N.J., and I see him occasionally. He is just as vivacious as ever. Frank Chesterman was brought back from Pittsburgh last summer to be vice-president in charge of operations of the Pennsylvania Bell Telephone Company. I've had a chance to talk with him twice since he got back, once on the train going out to Germantown where we both live, and once at the fall get-together of the Technology Club of Philadelphia. He has taken on avoirdupois with his added responsibilities.

'I have had ups and downs. I did very well indeed up to the fall of '29, and then went in as vice-president of a small Chicago manufacturer of fans and blowers. Things went well for a time, but they had expanded too rapidly and could not weather the storm. I lost practically everything in the blowup. I opened this office for myself on January 1, 1936. The work was uphill for three or four years, but now I am doing well again. However, the taxes will not leave much to lay

aside.

'We had one boy and two girls. The boy is a lieutenant in the Army at Camp Lee, Va., with a promotion in sight at any minute. The older daughter is the one in Auburndale. She has two fine boys, aged four and six. The younger daughter, Carol, passed away on October 17, 1938. Anderson's address is 1204 Commercial Trust Building, Philadelphia, Pa.

C. D. Klahr followed up the Secretary's request to look up Harold Mitchell, whose mail was returned from Erie, Pa., marked "unknown." Klahr says that Mitch is one of the busiest men in Erie. He's superintendent of property for the local General Electric Company. As such he is in charge of both old and new construction. This is a very responsible position, and Mitchell is working seven days a week.

Joe Daniels, apparently the busiest man on the West Coast, finds time to write: "In the first place, I have rounded off 31 years at the University of Washington, a long time at any job. My work continues to be interesting. Aside from regular duties, I have been carrying on engineering defense training classes in iron and steel two evenings a week. This has been a new experience, lecturing to a group of men of varied capabilities and backgrounds, trying to find out the things that they need to improve their technical

information. I am serving as chairman of the committee on mines and minerals of the Seattle Chamber of Commerce, on the mining committee of the Associated Chambers of Commerce of the state, and also as chairman of the Puget Sound chapter of the American Society for Metals. On top of that, I am on call constantly by the state planning council for information, advice, and so forth, in connection with problems relating to our natural resources. An outstanding highlight in the past year was the publication of Department Investigation 3551, United States Bureau of Mines, on Beehive and By-Produce Coking in Washington State. This brought together some work I have been doing for several years, and it finally clinched the fact that we have in this state large and important resources of coking coal, and that we have, and can make, coke suitable for many of the industrial and metallurgical plants on the Coast. Even Mr. Ickes, in the press report releasing the publication, backed up this conclusion. I spent most of the summer carrying on coking tests in sole-flue ovens of the Carran-Knowles type to determine the suitability of this type of equipment to make coke from our coals, and then testing the cokes produced. This data has not been publicized yet, but I expect that the results will lead to the construction of a new coking plant in the Pacific Northwest. I have also spent some time in field studies in Oregon and Washington looking for limestone and silica, both needed in present industrial uses and for prospective industries coming to use our electric power. Just now, I am serving with a group of engineers who are reassembling data on the possibilities of producing pig iron from northwest iron ores, local and Alaska limestone, and coking coal from Washington, either in blast furnaces or in electric smelting units. This is one of the liveliest questions we are facing in connection with the national shortage of raw material for the steel furnaces.

"We have moved from 512 East 57th Street to a new home at 5816 Vassar Avenue, where we are perched on a hillside that gives us a view of the city, its lakes and hills, the Cascade Mountains and Mount Rainier, and the Olympics to the west. My wife's hobby is gardening, so I am the digger of dirt and weeds. Occasionally I have the privilege of helping in loftier ways. One of my daughters traveled to India to marry a captain in the British-Indian army. Another is married to a United States Army lieutenant, who is stationed here at the university. My son is doing some engineering work at Dutch Harbor, Alaska. That leaves little Jo (feminine) at home with us. Is this enough information? If not, consult 'Who's Who in America' or Hoos Hooted. My best regards to you, and through you to all the good fellows in the Class whom it was my privilege to

know.

Bob Young, erstwhile of the Champion International Company and the S. D. Warren Company, has "quit paper" and is looking for a chance to get into the war

program somewhere. Here's a chance for some of you overworked classmates to grab off a bright young man. - Roy F. Lovejoy thinks we need a new or regenerated Secretary. He adds: "I have no real news to write. I've been pretty nearly driven crazy for the last three months. Even before December 7, small industries were having difficulty in securing steel on account of the priority situation. I suppose we should not criticize the red tape, but to those engaged in essential production it does seem as if there is a tremendous amount of unnecessary clerical work going on." -- FRED W. GOLDTHWAIT, Secretary, 274 Franklin Street, Boston, Mass. SIDNEY T. STRICKLAND, Assistant Secretary, 137 Newbury Street, Boston, Mass.

1907

Paul Cumings and Stanley Wires, who are the officers of E. Stanley Wires Company, Inc., a concern which does tilesetting and fireplace work, have moved their office location from 120 Boylston Street, Boston, where they have been for many years, to 202 Southampton Street, Boston, where they also have their warehouse. - Parker Dodge's oldest son, John, who is an ensign in the United States Naval Reserve, was married at Jacksonville, Fla., on April 4 to Dorothy Tyler. His oldest daughter, Frances, is a chemist in Glenn Martin's, near Baltimore. The next son, Charles, is in the class of 1943 at Rensselaer Polytechnic Institute, and the next, Austin, is M.I.T., '44. The three younger children are in high or grade schools. - Clif Draper is now production supervisor at the General Electric Company, Schenectady, N.Y. His home address is 1046 Ardsley Road in that city.

In the Boston Herald of March 31, in an article entitled, "Concord goes to War" [referring to Concord, Mass.], appeared the following reference to one of our classmates: "Mr. and Mrs. Herbert B. Hosmer of 22 Elm Street have three sons and two daughters. One of the boys is an ensign at Pearl Harbor and another is in Australia with the army. Mr. Hosmer, who was in the last war, is a farmer and engineer. 'The war doesn't make much difference on the farm,' says Mrs Hosmer. 'We don't do any unnecessary driving, to save tires. I haven't taken to a bicycle yet, but it may come to that.' Mrs. Hosmer, a Radcliffe graduate, is a Red Cross Gray Lady and spends two days a week distributing books at the Lovell General Hospital at Fort Devens.' - Clarence Howe, who, as you all know, is minister of munitions and supply in Canada, addressed the members of the Boston Chamber of Commerce on April 28, on the subject, "How Did Canada Mobilize Her Industry for All-Out War Effort?" and "What Effect Has It Had on Canadian Business and Economy?"

Stuart C. Godfrey is now a brigadier general in the Army; his address, Army Air Forces, Washington, D.C. — A note from Mrs. Byron P. Luce, in response to my postal card regarding preference vote for our reunion mailed in April, states that Byron is on construction work in South

America. - Excerpts from a letter of April 7 received from Henry Martin are as follows: ". . . I have had a lot of fun meeting some of my ancient and honorable schoolmates and friends ever since I returned from Chile, South America, in 1917. . . . I was in Boston last week and saw George Crane and Ed Temple while I was working up data on plant, tools, and equipment for a shipyard at Fields Point, Providence, R.I., for my firm, John Monks and Sons, contractors and engineers, 438 Broadway, New York.
. . . I have just completed in a record short time the highest building, and possibly the most outstanding, the 'Wall-about Houses,' for the United States Housing Authority, at the New York Navy Yard, Brooklyn, N.Y., as project manager. I was appointed by telegraph to Hudson, N.Y., where I was, on May 10, 1941, in charge of inspection, chemical and mechanical analyses, and so forth, of some of the 8,000,000 barrels of cement for the new Delaware aqueduct, to bring 500,000,000 additional gallons of water per day from the Catskill Mountains into New York City by tunnel, 75 miles in length. . . . A short time ago I had a nice chat in Washington, D.C., with Alexander H. Van Keuren, XIII-A, now a rear admiral, who was with our Class for some time. He has charge of the Boston Navy Yard ship construction, where they have just finished rebuilding the United States destroyer Kearny, which was submarined 350 miles southwest of Iceland on October 17 . . .

Fred Morrill's home address is now 5125 Paddock Road, Cincinnati, Ohio. He is an engineer with the Ferro Concrete Construction Company in that city. — George R. Norton returned on March 5 to Pittsfield, Mass., where he is general plant manager for Eaton Paper Corporation, after having been Pacific Coast manager for this company during the past 12 years. His wife returned with him, but his only son, 20 years old, remained on the West Coast, as he has a defense job

which he likes.

From the Washington, D.C., Times-Herald of January 11, we read: "Henry Phillip Tappan Van Keuren, senior engineer of the National Inventors Council, and one of the nation's pioneers in automotive and aeronautical fields, died yesterday at Emergency Hospital. He was a brother of Rear Admiral A. H. Van Keuren. During World War I, Mr. Van Keuren served as a captain in the air corps. While stationed at Langley Field, he performed valuable pioneer work in aeronautical radio, photography, and automatic pilot controls. As engineer officer, he was instrumental in creating many new devices for military airplanes. After the war he became general manager of the Oldsmobile Company at Lansing, Michigan, and later became associated with the Reo Motor Car Company. He joined the National Inventors Council upon its creation in October, 1940. He was instrumental in furthering the development of several important inventions now in use in the army and navy. He was graduated from the University of Michigan in civil engineering, and took postgraduate work at Columbia University and Massachusetts Institute of Technology [Course XIII]. Surviving are his widow, Mrs. Marie Steele Van Keuren, and two daughters, the Misses Virginia and Catherine Van Keuren, all of Bloomville, Ohio. Funeral services will be held at the Fort Myer Chapel, followed by burial with military honors in Arlington Cemetery.'' This man was affiliated with '07.

You all know from direct notice from me that our 35-year-reunion is to be held at Oyster Harbors Club, Osterville, Mass., June 19-21. If you have not already mailed me your reply, and I hope a favorable one saying that you will be with us, please do so at once. Read again my announcement and the enclosed folder describing something of the attractions of Oyster Harbors, and decide that your attendance is a "must" for your own pleasure and re-invigoration. Please write me

At the Alumni Day Banquet at Hotel Statler, Boston, on April 25, the following '07 men were present: our two Tech professors, Ed Moreland and Ralph Hudson, and Lawrie Allen, Don Robbins, George Crane, and Bryant Nichols.—BRYANT NICHOLS, Secretary, 126 Charles Street, Auburndale, Mass. HAROLD S. WONSON, Assistant Secretary, Commonwealth Shoe and Leather Company, Whitman, Mass.

1909

Your New York Assistant Secretary is still pinch-hitting for Charlie Main, but I am sure it won't be long now till he takes back the reins. Most of the news this month is personal and much of it has to do with changes made because of the war. Molly Scharff is now Major Scharff of the Corps of Engineers and is in Washington on work connected with the manufacture of munitions. His New York and Pittsburgh offices of consulting engineers are being maintained by the members of his staff during his absence. -John Nickerson, who has been with Cheney Brothers, the silk manufacturers in South Manchester, Conn., since 1914, is now chief of the industry section of the labor relations branch of the War Production Board. John has been active all these years with the Cheneys in labor relations matters and was very highly spoken of in a W.P.B. press release of February 10.

Bob Doane has gone from the Anaconda Wire and Cable Company at Hastings-on-Hudson to Washington. Bob modestly says he will have little to do in the electrical section, Bureau of Ships, except to cover problems in connection with wire and cable. He adds just incidentally that one big naval vessel carries just a bit over a million linear feet of cable! Arthur T. Warner's son, Junior, had his picture in the Newark News the other night, having just been commissioned as a lieutenant in the Marine Corps air service. Ken May's daughter, Elizabeth, was married to John E. Dorer, a lieutenant in the Army Air Corps, on March 7. Reg

Jones reports that our classmate John Mills, who had a tough time with phlebitis is back in the pink, with all his customary energy. Reg's older boy, Reg, Jr., is at Exeter and is thinking of Technology. His daughter, Elizabeth, is pre-

paring for Wellesley.

The Let Kings have announced the engagement of their daughter Margaret to Donald J. Stroop, a lieutenant of the 82d armored reconnaissance battalion of the Second Division. On March 18, Charlie Main was elected president of the Boston Society of Civil Engineers, the oldest organization of the kind in this country. One of Charlie's predecessors in office was his father, Charles T. Main '76, a familiar figure at Alumni Day festivities. They are the only father-and-son presidential officeholders in the annals of the society. Mex Weill is about to leave New York City for Port Jervis, N.Y., to engage in the manufacture of plastic ply-wood for airplane surfaces. We of the New York crowd will miss him sorely at our class functions, though maybe Mex can plan his calls in New York when we have our class luncheons. It won't seem quite right not to have him with us and something will have to be done about it. Brad Dewey is now a grandpa and our beloved Dr. Dewey is now a greatgranddaddy. A daughter was born on March 10 to Bradley, Jr., and Mrs. Dewey.

I ran across the following notice in the 1942 Old Farmer's Almanac, reprinted from the 1866 publication. That was a long time ago in the Institute's history. "This excellent institution, located in the city of Boston, has entered upon its career of usefulness under the most favorable auspices. It is designed to teach the practical application of the sciences to the mechanic arts, to establish a museum of practical art, a school of design, a school of mines, and to act as a Society of Arts. Though still young in years, its endowment, though wholly inadequate to its future wants and its vast and varied plans of usefulness, already exceeds a quarter of a million dollars. One wing of its building has been erected upon the Back Bay lands, and it is now ready for occupation by the classes that attend its instructions. The Institute will be in a position to employ the highest scientific talent in the country in the development of our vast material resources. We heartily commend it to the attention and patronage of the public." - Charles R. MAIN, Secretary, 201 Devonshire Street, Boston, Mass. Assistant Secretaries: PAUL M. WISWALL, MAURICE R. SCHARFF, New York; GEORGE E. WALLIS, Chicago.

With Louise Seeley, wife of Nat, I, coming on with him from Stamford, Conn., for their son Frank's senior week, we had exactly 11 classmates at this year's Alumni Day Banquet. The others were Bill Coburn, I; Art Coupal, II; your old friends, Dennie and Jack; Roger Loud, VI, who also had a son in the graduating Class; Morris Omansky, XI; O. W. Stewart, I; Ted Van Tassel, X, and Aleck Yereance, I, the latter two in

their army captain uniforms, of course. -It was nice to learn that our two junior '11 men this year had done so well. Warren Loud, XVIII, has won a fellowship and will return to M.I.T. for an advanced degree in Applied Mathematics. This spring he was a member of the M.I.T. team in the contest with men from 30 other colleges in the William Lowell Putnam mathematical competition and in addition to receiving a \$20 prize as a member of the third-ranking team, he was one of the top five individuals, thus earning an extra \$50 prize. Frank Seeley, XV, was, like Nat, a prominent Chi Phi and was Beaver Orator for 1942. He is commissioned in the Naval Reserve.

There were eight of us from '11 on this year's Committee of Alumni Hosts -. Alumni who collectively have made it financially possible for all members of the graduating Class of 1942 to be invited to attend this Alumni Banquet as guests of the Alumni Association. F. C. Harrington, I; Bob Haslam, X; Bill Warner, I; Bunnie Wilson, XIV; and Rufe Zimmerman, IX, joined with Roger Loud, Nat Seeley, and Dennie to form this octet.

It was interesting to find that Jack Herlihy and Tom Haines, Boston Edison old-timers, have recently been made assistant vice-presidents of the company. Jack is in charge of procurement, service, and supplies, and Tom heads engineering, production, transmission, and distribution. Well-earned honors and responsibili-

ties, boys! We salute you!

Ted Van Tassel and Aleck Yereance are both delighted to be back in the Army. Ted is in the Chemical Warfare Service, and Aleck is at the First Corps Area Headquarters. Ted was in to see me in mid-April, having just returned from a trip to Washington, where he spent the night with Carl Richmond, I. He also saw Luis deFlorez, II, and G. Arthur Brown, X. Ted is assigned to Boston Chemical Warfare Procurement District, Production Planning Division, 75 Fed-

eral Street, Boston.

Aleck writes: "My full title is Chief, Supply Division, Office of the Corps Area Engineer, Headquarters First Corps Area, 808 Commonwealth Avenue, Boston. The title is bigger than the job itself. What I am doing is simply helping the corps area engineer fulfill his function in providing engineering supplies for troops in New England camps, posts, and stations, according to their needs and allotments. We do a little local purchasing, but mostly requisition on the general depots in Schenectady, N.Y., and in Columbus, Ohio.

This is altogether a new sort of army activity for me, as completely different from any previous war experience or study as would be the hardware business or any unfamiliar trade. It is interesting and of course I'm glad to be doing what I can at this time. We are moving May 1 to 50 Follen Street, Cambridge. Technology is well represented in the corps area engineer's office. Lewis E. Moore'02, formerly our Professor of Civil Engi-

neering, is a colonel, and Carl H. Morrill'12 is a captain there. Working with my group through stations at posts are Willard W. Selden'30 and Lewis Gelbert '36, both lieutenants."

G. Arthur Brown, specializing in leather, is connected with the Standardization Branch, Office of Quartermaster General, Temporary Building B, Second and Q Streets, Southwest, Washington, D.C. We were delighted to learn from the Alumni Office that Phil Kerr, II, has been promoted from lieutenant colonel to colonel, but a letter to his new address, 818 South Orme Street, Arlington, Va., has as yet remained unanswered, so we don't know his exact activity.

Just had a letter from Bill Fortune, I, who has located a position in hustling, bustling Hartford, Conn., in a war industry machine shop. His address is now 1922 Main Street, Hartford. Emmons Whitcomb, X, reported at the last Council meeting, where he and Jack Herlihy, II, and I sat together, that he and Reta had moved out to 7 Hawthorne Avenue, Arlington Heights. Already the Whit-

combs have started a victory garden. It was great to read in the Boston papers in mid-April that Francis B. Herlihy'42, Jack's nephew, son of Frank Herlihy '15, was named as one of six students to be presented a William Barton Rogers award of \$300, given annually in recognition of high scholarship, character, and leadership in student affairs. Young Frank was president of the M.I.T. Athletic Association during this, his senior year.

Fred Daniels, VI, was hospitalized for a short time in mid-April, but he came through in fine shape and is as good as new. I happened to call on him the very day his Riley Stoker Corporation statement was issued to the press. A good report it was, too, with sales rising 55 per cent over 1940 and net income, despite substantial rises in Federal taxes, rising

47 per cent.

Fred Adams, XIII, has left Brooklyn and is now at Gista Long Point, Noank, Conn.; Lee Etting, II, has migrated from Grand Island, Neb., to 122 East Chestnut Street, Glendale, Calif. New street addresses include the following: Lew Baxter, IV, Post Office Box 57, Ponte Vedra Beach, Fla.; Perley Brown, XI, 17 Harrison Street, Manchester, N.H.; Jack Dunphy, Post Office Box 1479, Washington, D.C.; Lee McMillan, IV, 1614 Soniat Street, New Orleans, La.; Carl Richmond, I, Internal Security Division, Office of the Provost Marshall General, Temporary Building H, 23d and C Streets, Washington, D.C.; and Harrison Smith, III, 353 Cleveland Street, Menaha, Wis.

Well, mates, we're away to a fine start on the third year of the Alumni Fund, with '11's average and total contributions in April well ahead of the previous two years, but I still believe that all youze faithful guys can assist the cause by urging classmates who do not get The Review to come through with a contribution to the Alumni Fund and thus automatically get on The Review sub-

scription list. Finally, keep that news of '11 men and their youngsters in the service coming along! — ORVILLE B. DENISON, Secretary, Chamber of Commerce, Worcester, Mass. John A. Herlihy, Assistant Secretary, 588 Riverside Avenue, Medford, Mass.

1912

Walter H. Taylor, V, has for many years been a professor of chemistry at St. John's University in Shanghai, China. He had just returned to Shanghai from a visit to his home in Norfolk a few days before the Japanese took over the international settlement. — Max Levine, VII, who holds a professorship at Iowa State College, has been called to service as a major with the second medical laboratory of the Third Army, stationed at Fort Sam Houston, Texas. — David Dasso, II, is often mentioned in the current press. A notice which has just come to hand refers to him as "Peru's brilliant, hardboiled Minister of Finance. Trained as an engineer in the Massachusetts Institute of Technology, Dasso knows what Science

Technology, Dasso knows what Science may do for his country."

Joseph W. Farwell, XI, is engaged in construction work with the McWilliams Dredging Company of Chicago, at Bermuda. — Ralph N. Doble, II, has recently reported that he is serving as a lieutenant commander, Corps of Engineers, United States Navy, stationed at Puget Sound Navy Yard. — Harold W. Danser, VI, has recently joined the firm of Moors and Cabot, investment brokers, in their Boston office. — Dolphe Martin, who now broadcasts frequently over radio station WEEI and the Columbia Broadcasting System, is no other than our old friend Doc Eisenberg, who is now tops in

It was just at the end of February, too late to get this report in to The Review for the April issue, that your Assistant Secretary had a most enjoyable visit with Gerald M. Keith, I, and Antonio Romero, I, both of whom were attending an important defense conference in New York. Over the luncheon table in the hospitable quarters of the Technology Club of New York, they contributed some bits of news about themselves and their work.

broadcasting.

Keith is living at 2695 Broome Street, Gainesville, Fla., and is teaching structural engineering at the University of Florida. He is currently serving as president of the Florida section of the American Society of Civil Engineers, and was sent to New York as delegate of that association, to attend a special conference on aerial bombardment protection. This conference, it is of interest to note, was held under the joint auspices of Walter Binger's civilian defense committee and New York University. Walter Binger is a prominent member of the Class of '16.

Romero had come all the way from his native Puerto Rico to attend this conference. He revealed that after graduation some 30 years ago, he worked for two years in Pottstown, Pa., for an engineering contractor. After that, he returned to Puerto Rico, and, after long and varied experience, he has risen to the post of

chief engineer of the Public Service Commission of Puerto Rico. He lives at 3 Washington Street, Santurce, P.R.

The Pittsburgh Press of April 15 carried on page 2 a seven-column picture of the crowd which witnessed the awarding of the Navy "E" to the Aluminum Company of America. And a good-sized inset picture depicted Ralph M. Ferry, the superintendent, receiving the flag from the hands of Rear Admiral Watson. Ralph Ferry, II, has been doing a fine job with the Aluminum Company for a great many years. He has been at the New Kensington works, Pittsburgh, for something like the past eight or ten years. Prior to that he was at the Edgewater, N.J., plant of the United States Aluminum Company.

We are indebted to H. Malcolm Priest, I, for sending us the clipping about Ralph Ferry. Priest, who is with one of the subsidiaries of the United States Steel Corporation, also located in Pittsburgh, writes as follows: "I see Ralph occasionally at the University Club when there is a lecture or some special meeting. He is a busy fellow these days. . . . While I am writing I might also give you a personal item. I recently wrote a paper, entitled 'Engineering Essentials for Welders,' that was published in the April issue of the Journal of the American Welding Society. I had previously given it as a lecture before the Northern New Jersey and Pittsburgh sections of the society. Am still on the same job here, but no telling about the future, what with the registration on April 27 and the fact of being an engineer.

At the annual banquet of the M.I.T. Club of Northern New Jersey, April 16, we managed to have a small-sized class reunion with H. H. Brackett, VI, H. H. Griffin, II, N. A. Hall, VI, Robert J. Wiseman, VI, and your Assistant Secretary present. — Griffin is doing an interesting job with James Stewart and Company, contractors, whose headquarters are in New York. This company is building war production plants for industry and bases for the armed services in the islands of the Caribbean. Griff is handling all the purchasing of the millions of dollars' worth of materials and supplies which are going into these far-flung operations.

At the Alumni Banquet, held at the Statler April 25, three of our Class were present with their sons who were graduating. Johnny Noyes, from Dallas, Texas; Fred Dierks from Kansas City; and W. J. Murray from Dedham were the three proud fathers. The following were also present for the dinner: Gale, Hunsaker, Schell, Shepard, Somers, and Springall. — Frederick J. Shepard, Jr., Secretary, 125 Walnut Street, Watertown, Mass. David J. McGrath, Assistant Secretary, McGraw-Hill Publishing Company, Inc., 330 West 42d Street, New York, N.Y.

1913

Albert M. Jones, I, was given a Distinguished Service Cross at Bataan in February, and the following article was printed in the Boston *Herald* on February

8: "Brig.-Gen. Albert M. Jones of Quincy and Maj.-Gen. Jonathan M. Wainwright of Walla Walla, Wash., were personally decorated with distinguished service crosses somewhere in the Bataan war area by Gen. Douglas MacArthur yesterday for extraordinary heroism in action during the early phases of the Philippine invasion. The War Department, announcing the awards at Washington last night, said Gen. Jones commanded the southern sector and Gen. Wainwright the northern front on the island of Luzon. Fighting a Japanese foe greatly superior in numbers, their commands slowly fell back and finally by particularly skillful maneuvers,' united in Pampanga province before retiring to the present strong position on the Bataan peninsula. News of the honor given Gen. Jones was wired his wife, Mrs. Barbara Jones, at their home, 33 Watertown Avenue, Wollaston, and while she said she was proud beyond words, she was, like most Americans, hungry for details that were lacking in the official announcement. The general, member of a well-known Quincy family and brother of the late Dr. George Jones, medical examiner, was from 1935 to 1940 instructor at Quincy headquarters of the 51st brigade of the Massachusetts National Guard. When the guard was mustered into federal service, he left for the Philippines.

"He was born in Quincy, educated at the now defunct Adams Academy and at the Massachusetts Institute of Technology. He entered the army from civil life in 1911 and immediately joined a mapping expedition to the Panama Canal Zone. He remained in Panama during construction, under Gen. George M. Goethals; served at the Mexican border; and went to France for two years of service as a major in charge of an infantry battalion.

"Before coming to his Quincy post, he studied at the General Service School at Fort Benning, Ga., the Command and General Staff School at Fort Leavenworth, Kans., and the Army War College, Washington, then was for a number of years assistant chief of staff, in charge of intelligence, for the ninth corps area, Chicago. . . ."

Al was a lieutenant colonel stationed in Quincy in the late '30's and always attended our class affairs. We are very proud of what he has done and happy that he has been rewarded.

C. P. Wetherbee, VI, wrote the following letter: "Just after receiving the April issue of The Review, I ran across the following clipping in the current issue of the American Telephone and Telegraph Company's house organ. I am with the Bell Telephone Company of Pennsylvania in Philadelphia and we see courtesy copies of the 'Great White Father's' monthly publication.

"A quarter-century of Bell System service stands to the credit of Ralph S. Rankin of the O. & E. commercial division, and all of it has been spent with this company. . . . Mr. Rankin graduated from the Massachusetts Institute of Technology in 1913 with a B.S. degree in electrical engineering, and remained at

M.I.T. for a year as an assistant. Following this, he joined the A.T. & T. and went to do transmission work in the plant division of the Engineering department. He remained there until 1917, when military service loomed ahead. The next two years he spent in the navy, coming out as a Lieutenant, junior grade, in February, 1919. He served as office manager of the O. & E. department from September, 1923 to March, 1927, and then moved into the commercial division. In subsequent years he has held a variety of assignments, and at present he is head of the group working on commercial results. Mr. Rankin spends most of his spare time in salt-water sailing and has taken part in many races.

"I get over to New York every now and then and occasionally stop in to say hello to Ernie Weller, VI, who is also with A.T. and T. at 195 Broadway, N.Y. Ernie is on the outside plant staff, and I suppose he will be getting a 30-year

write-up next year.

"Also hear periodically from Joe Summerville, VI, who left the Class in his junior year. Joe is doing right well with the Public Service Commission, state of New York, and is located at Ithaca."

Ken Blake, XIV, was in Pawtucket recently, looking very well and as energetic as ever. He is manager of the yarn department of Cheney Brothers, large silk manufacturers, with headquarters in New York City. Ken's products are mostly silk, rayon, and nylon yarns made in the spun-silk system. — Frederick D. Murdock, Secretary, Murdock Webbing Company, Box 784, Pawtucket, R.I.

1914

The war is occupying the attention of a very large number of '14 men, both those in the military services and those in civilian life who are converting their normal activities to the war effort. A few items regarding several of our militaryminded classmates have come to your Secretary's attention. Alden Waitt, of the Chemical Warfare Service, has been promoted to the rank of full colonel and is on duty in Washington. Alden is the author of numerous articles in military publications on the use of gases in warfare. The April issue of Army Ordnance contained an article on the use of poison gases for retreating armies.

Jack Wood, who has done so well in training colored troops in the Corps of Engineers, has also been promoted to the rank of full colonel. When last heard of, he was still at Fort Bragg. Lucian Burnham, who chose the Marines, is now a lieutenant colonel and is at Quantico. Tom Green is a colonel and when last

heard of was on foreign duty.

Two reserve officers are known to have been called to active duty. Welton A. Snow, a major in the Field Artillery, was at Fort Bragg. The other is Harold G. Storke, a lieutenant colonel, who has been on duty at headquarters of the First Corps Area in Boston. — Dave Sutherland, who had been in the refrigeration, air conditioning, and heating business in Minneapolis, has closed up his business

and is training for a commission in the Air Corps. Clarke Atwood talked with him recently on a trip through the Middle West. Louis Charm, who had been in the electrical contracting business in Boston, is now located at Newport, R.I., working on a military project.

The supply of electric power is one of the important war requirements. The planning for engineering facilities of the Boston Edison Company is largely in the hands of Chester Corney who has recently been made an assistant vice-president of the company. - From time to time mention has been made in these columns of the work that Clarke Atwood has been doing in making textile fibers from milk. The shortage of wool has created such a demand for these fibers that manufacturing processing facilities are taxed to their capacity, and much of the cloth going into clothing manufacture will have a goodly proportion of Atwood's milk in it. - H. B. RICHMOND, Secretary, General Radio Company, 30 State Street, Cambridge, Mass. CHARLES P. FISKE, Assistant Secretary, 1775 Broadway, New York, N.Y.

1915

Alumni Fund totals on April 24 showed that 42 classmates had contributed \$1,215. If we continue this good average, we'll easily hit our quota. If the men who gave sizable checks last year give the same this year (and I really feel they will) and our other classmates each give at least fifteen dollars, we shall go over the top gloriously. George Rooney, as Assistant Class Agent, is helping me to organize our Class with keymen in geographical centers and possibly men representing each fraternity. This plan was inspired by the successful Dartmouth fund drive. Make up your mind that the M.I.T. Alumni Fund is firmly established and will come to your attention annually.

From the grab bag of class letters we pluck a prize. This one is from little Andy, who, after his disappearance following our Oyster Harbor's reunion, is back in circulation at 1307 Sixth Avenue, New York City. Andy writes: "Right here at the opening I wish to state that Albert H. Anderson is still among the living and wishes to be listed among the active members of good old '15. I am probably at fault, for I left the reunion way back there in 1940 and have not contacted anybody up to this time. We did have a great time and I want to be there for the 1945 reunion. . . . I suppose you see George Rooney now and then. If so, give our best to him and Ethel. Now I'll bring my adventures up to date. My job on the Midtown Tunnel in New York City was about over by 1940, so I was painfully removed from the overhead because the reunion with the old gang was worth more than a couple of months' more work. Mrs. Anderson and I left Boston about a week after the shindig and headed for a long ride. We went west by the northern route and finally landed in Seattle after seeing everything on the way that we might have missed on previous trips. We went down the coast to Hollywood and stopped for a month, then rolled farther along as far as the road held out in lower California and into Mexico. We crossed the border at Tia Juana. That's a country! We didn't stop there long, but rolled back to look at Bing Crosby's horses at Del Mar for a week or so, then went to Hollywood where we sojourned till the last of October. They run dogs or horses at Hollywood Park in Inglewood - and don't I know it! I am an Easterner, but California sure is a wonderful place. I might better say it has wonderful spots. I wouldn't give a nickel for the mountains or valleys, and as for getting a job out there, that's out. I had a good lead on the project at Terminal Island, and if I'd stayed a while longer I might have landed there, but not until I returned East did I hear from them.

"Can you imagine it? The people out there have a school at Pasadena called California Institute of Technology, and I don't believe they ever heard of good old M.I.T. We need a few good-will ambassadors in the West. . . . I got in touch with Ken Kahn and spent a very enjoyable evening at his home. He was sorry that he was unable to get back to the East for the reunion. Arthur Bell arranged a visit for me to the Disney studios in Burbank, and I also was able to go through the Douglas plant at Santa Monica, through the courtesy of Donald

Douglas'14.

In October we made a change from sunny California to Cape Cod. Our outfit built Camp Edwards, so I spent the winter at the summer resort called Falmouth, Mass. We finished there about a year ago March, and then I took another one of those "construction vacations." This one was not so long though, as I landed a job at the Brooklyn Navy Yard in April. You probably know that Billy Smith is the boss on this job for the United States Navy. . . . That's a brief outline of what has happened since I have been missing. Please tell the Alumni Association where I am, and don't forget to say hello for me to Pirate Rooney and any of the others that you may see." — That's what you call a letter and the height of class loyalty and spirit! We'll all be looking forward to seeing little Andy in 1945.

Wayne Bradley wrote: "How time goes by! Things are going along all right except, of course, that I am in the rubber business. Let me know when you have another dinner in Boston or New York, as I would like to see all the old gang

again."

From Lawrence H. Bailey, 7905 Cobden Road, Chestnut Hill, Pa., came the following: "I just ran across your very appealing letter for class dues. My son, Robert E. Bailey '41, was recommended for his S.M. degree at the close of the Institute's term. He is now in Lima, Peru, forecasting the weather for the Pan American Grace Airways. He expects to move on down to Santiago in a few months and will stay there for three years. Not much news about myself, for I am still plugging away at the F. J. Stokes Machine Company, which is operating at

nearly 100 per cent for defense work. Leonard E. Best dropped in to see me recently. He has turned over the Richard Best pencil business to his brother and is running the new products department of the United States Rubber Company in Passaic, N.J. He informs me that he is now a grandfather. . . . I do not see many of the old gang except for a few of the local boys." — Congratulations to Leonard Best as another of the class grandfathers!

John S. Little, 50 Canterbury Lane, Westfield, N.J., has recently been appointed superintendent of manufacturing engineering at the Kearney works of the Western Electric Company. Congratulations and best wishes to John in his new job! - Frank Herlihy's son, Francis B., was one of six students to be presented with the William Barton Rogers' award of \$300. Congratulations to Francis for good work in winning this award in recognition of high scholarship, character, and leadership in student affairs. Upon his graduation in April, he became a second lieutenant in the Ordnance Department. — Johnnie O'Brien is a civilian engineer in the Boston office of the Ordnance Department. - Remember the Alumni Fund and give to help M.I.T.

— Azel W. Mack, Secretary, 40 St. Paul
Street, Brookline, Mass.

1916

H. E. Whittemore has written from San Diego, Calif., where he is manager and assistant secretary of the Benson Lumber Company. The magazine Western Building Review for March, 1942, a copy of which Mr. Whittemore sent your Secretary, carries his picture and a brief article indicating that he is president of the retail lumbermen's association in Southern California. Whittemore came to Technology from Mt. Hermon Boys' School and Chauncey Hall School, did governmental work in Alaska, served with the United States Marines in World War I, has been on the West Coast continuously since then, and is ranked as a top-flight salesman. (Walt Binger, please note this sketch for your class biography.)

It is time to call attention to the need for donations to the Alumni Fund. Those responsible for the operation of the Institute indicate that the need for contributions this year will be greater than ever before. Checks should be made out to M.I.T. and mailed to the Alumni Fund, Room 3–219, M.I.T., Cambridge, Mass.—James A. Burbank, Secretary, The Travelers Insurance Company, Hartford, Conn. Steven R. Berke, Associate Secretary, Coleman Brothers Corporation, 245 State Street, Boston, Mass.

1918

My silence the last few months has been entirely due to the lack of news. I sincerely hope that from now on more may filter in so that the pages of class notes will not be minus an '18 section. Many of the boys are noticing the lack, but I cannot fake news for this column.

There were two meetings of the Class within a six weeks' period. On March

19, Pete Sanger called a group together at the Hotel Duane in New York for dinner. Those present were Granville Smith, Arthur Smith, Walt Robertson, Sax Fletcher, Ev Rowe, Clarence Fuller, Tom Brosnahan, Pete Sanger, and the Secretary. The main topic of discussion was whether we should hold a 25th reunion next year, and our decision was definitely in the affirmative. Because the Class of '43 is graduating in February rather than in June, we do not have to make our plans to correspond with Class Day and other festivities in Boston.

At the Alumni Banquet in Boston, the following members of the Class were present: our President, F. A. Magoun, Tom Kelly, Jack Hanley, Bill Wills, Jim McClellan, Frank O'Connor, and the writer. We too discussed the prospective reunion and the general opinion was that because of the transportation problem we should give up the idea of going to the Cape. The suggestion was made that we go back to the new inn in Weekapaug. More information about this will come along later. Let each and every one of us begin to prepare now for a grand and glorious time about the third week end in June, 1943.

Jim McClellan's son was graduated from the Institute in April. We had a chance to meet not only the son but the daughter-in-law. The young people are looking forward to residing soon at Aberdeen Proving Ground, as the young man is in the Ordnance Department.

Tom Kelly has two daughters entering college this fall, one at Simmons and the other at Wellesley. Walt Robertson has a daughter at Middlebury now. Maggie Magoun has two sons in Yale and his daughter, who has already been graduated from Wellesley, is working in the library at Swarthmore College.

Our old friend Mique Flett has come to the front. Lawrence Hugo Flett has been selected as the 1942 recipient of the Jacob F. Schoellkopf gold medal, presented annually by the western New York section of the American Chemical Society. The medal, awarded in May for accomplishment constituting a major advance in science and embodying the spirit of research in industry, goes to Mr. Flett for his work on detergents, synthetic chemical compounds which form quick, foamy washing solutions. Congratulations, Mique, from all of us.

Jimmie Flint is now a lieutenant commander located at 225 Park Avenue, New York; Henry Lacey has moved up a grade from lieutenant commander to commander, with address at Public Works Division, United States Navy Yard, Philadelphia; Charles W. Lippitt, a major, is at Headquarters, 9th Battalion, Field Artillery Replacement Center, Fort Bragg, N.C.; and Herbert Wheeler is now Colonel Wheeler, 509 Wickersham Avenue, Fort Benning, Ga.

Let me say a few words in reference to the Organ Fund. Maggie told me at the banquet that we needed just about as much money again as has already come in. If you haven't sent your contribution, won't you do it soon? If you have sent one, is there any possibility of sending a little more? We should like to have that organ installed by the time of our 25-year reunion. — Won't some of you come through with more news so the section will not have to be a blank any more? Jack Hanley is starting to set the wheels in motion in reference to two of the courses. Won't someone do something about the others? — Gretchen A. Palmer, Secretary, The Thomas School, The Wilson Road, Rowayton, Conn.

1919

Members of the Class are no doubt increasing their individual activities in the war effort. Your Secretary has just returned from a more or less periodic trip to Washington for The Lummus Company, which is building aviation gasoline plants, synthetic-rubber plants, phenol and explosives plants, and so forth. I run into quite a number of M.I.T. men in Washington but have not seen any classmates there recently.

I notice that William H. Bassett, Jr., who was previously with the Anaconda Wire and Cable Company, has now taken up quarters in Room 4762A, Social Security Building, Washington, D.C., and I understand from some of my friends in the metallurgical industry that he is an expert on metals in one of the letter fraternities in Washington.

Henry A. deBonneval has moved to 145 Valentine Lane, Yonkers, N.Y. Donald H. Lovejoy is with the Standard Knapp Company, Engineering Department, Portland, Conn. Dirk J. Luykx resides at 42 Washington Square, South, New York, N.Y. Frederick L. Peart lives at 250 South Eudora, Denver, Colo.

Dutch Seifert writes from Hammond, Ind., where he is with the American Chemical Service, which handles the manufacturing, processing, and reclaiming of solvents and chemicals. Dutch says: "I have just reread your letter of April 25, 1941. Seems a long time to have an unanswered letter in my "to do" file, but nevertheless it's so. My business is giving me the run-around now. One war emergency call for a special chemical reclamation job follows another. We have rush jobs which keep the plant busy 24 hours per day and possibly seven days per week. I'm almost at the point of making out my own priority list for my

"Alan G. Richards dropped in on me some time ago. He was on a trip and his wife and knitting were along with him. As you know, Chicago is but a jaunt from Hammond. I have been accustomed to going in once or twice a week, but now I have to worry about getting eight hours' sleep each night."

E. C. Roth wrote in to give his address as Twin Oak Road, Peru, Ill. John W. Orcutt sent in the following information about himself: His home address is Schofield Barracks, T.H. He is a lieutenant colonel in the Ordnance Department of the United States Army. He has a wife and three children — two sons, 17 and 13, and a daughter, 16. His hobbies are travel and history. In 1937, John traveled

through England, France, Germany, Holland, Switzerland, and Italy; in 1939, he went to Bermuda, Haiti, and Panama; and last year he traveled overland to the West Coast and Hawaii. His message, dated March 19, was mailed from Honolulu, Hawaii. We hope to have some interesting stories from John some day.

Edward E. Scofield writes from West,

Edward E. Scofield writes from West, 450-15th Avenue, Spokane, Wash. He is with the Washington Water Power Company, is married, and has two daughters, 10 and 6. He is spending considerable time on first aid as an air warden, and in "adjusting the residue of income to expenses, or vice versa." Edward has not seen many '19 men and mentions that apparently they shun Spokane.

The Boston Herald of April 6 contained the following story about the marriage of Grace B. Wright and Dr. James McLaren Strang: "... Miss Anne M. Strang, sister of Dr. Strang, attended the bride and Dr. Gordon Ferguson of Pittsburgh, Pa. was best man for the bridegroom who was graduated from the Massachusetts Institute of Technology in 1919 and is also a graduate of Harvard Medical School. Dr. Strang and his bride will make their home in Pittsburgh where he is a member of the staff at the Western Pennsylvania Hospital."

Your Secretary conversed with Don Way over the telephone last week and learned that he has been extremely busy moving the Singer Manufacturing Company plant from Elizabethport out farther into New Jersey. — Louis J. Grayson and James G. Strobridge attended the January meeting of the Washington Society of the M.I.T. — Eugene R. Smociety of the M.C. Feeren, N.Y. George W. McCreery, Assistant Secretary, 131 Clarendon Street, Boston, Mass.

1920

The Class is contributing heavily to the war effort. Lyman P. Whitten has just been promoted to the rank of colonel in the Army Air Corps. He is located at 4116 Munitions Building, Washington, D.C. Austin D. Higgins, a major, is adjutant at Fort Slocum, N.Y. Robert B. Colton, a lieutenant colonel, is at 118 Hesket Street, Chevy Chase, Md. Clyde K. Hall, a lieutenant of the Air Corps Ferrying Command, is located at the Wayne County Airport, Romulus, Mich.

Perk Bugbee is doing some very interesting and valuable work, both for the Office of Civilian Defense and for many other government services that are relying heavily on the National Fire Protection Association, of which he is general manager. — Please, fellows, send me in-

formation of your activities.

Fritz Boley is living at 2123 West 108th Place, Beverley, Chicago, Ill.; Ed Cousins in Akron, Ohio, at 2342 Cramer Avenue; H. J. Green at Ridgeway Circle, White Plains, N.Y.; John Lucas with Ford, Bacon and Davis at St. Georges, Bermuda; M. S. Sanders at 44 North Crest Road, Chattanooga, Tenn.; Larry Weymouth in Somerville, N.J., at 91 Prospect Street; Frank Wilcox in Phoenix, Ariz.,

at 545 East Willette; and Igor N. Zavarine in Arlington, Va., at 4219 25th Street.

Considering the times, '20 was remarkably well represented at the Alumni Banquet. Those present were Fred Bowditch, Al Burke, Scott Carpenter, Foster Doane, Al Glassett, Dan Lord, Frank Maconi, Don Mitsch, Ed Ryer, Bat Thresher, E. P. Whitehead, and D. F. Willey. — HAROLD BUGBEE, Secretary, 7 Dartmouth Street, Winchester, Mass.

1921

Alumni Day and the start of the third year of the M.I.T. Alumni Fund are the principal news items of the month. The Fund has made an auspicious start, with many members of the Class responding promptly and generously to the first appeal. Keep this pace up by mailing in your fund card at once. Remember the important war contributions which the Institute is making in some hundred or more specific fields. The Institute has new buildings on the campus, a personnel numbering almost as many as the student body, and regular activities going on as usual. Technology needs your support now as never before. Lest you forget, the first \$5.00 of your contribution just meets Alumni Association and Fund expenses and your subscription to The Review. Only amounts over this figure go to the Institute. The sights are set at a \$15 average for each man. Let your good judgment be your guide.

A more enthusiastic affair than the 1942 Stein-on-the-Table Banquet at the Hotel Statler cannot be found in the annals of alumni history, and attendance broke all previous records. Technology has found its stride in the vanguard of technological warfare, and loyal Alumni have gone all out in their support of the farsighted administration of the Institute. Present for the day's activities were the following classmates: Max Burckett, Cac Clarke, Josh Crosby, Chick Dube, Norm Ferguson, Vic Homerberg, Chick Kurth, Warrie Norton, Norm Patton and Mrs. Patton, Larcom Randall, Slide Rule, and

Jack Sherman.

John J. Winn, Jr., X, has an enthusiastic press agent in the person of our neighboring Secretary, Clate Grover'22. Clate had dinner with Jack during a recent West Coast trip and has written a detailed account of the commercial manager of the Portland Gas and Coke Company, who ends all letters with "Visit the great Northwest." Jack started out with Stone and Webster, Inc., becoming general sales manager. Next he was associated with Consolidated Gas, Electric Light and Power Company of Baltimore and then the Hartford Gas Company, until five years ago when he assumed his present duties with the Oregon organization. Since then, the gas company with some by-products has changed into a chemical company with gas as a byproduct. Through Jack's efforts, the gas load has steadily increased. An article in Barron's for March 2 indicates the outstanding job he has done. He is liaison man between his company and the Army. Jack is married and has no children, which, he says, probably accounts for his recent appointment by the Governor to the Oregon State Board of Education. He is active in Rotary International and other civic affairs and is an officer of the Pacific Coast Gas Association.

George W. Spaulding, VI, is assistant chief engineer of the Pennsylvania Water and Power Company, with headquarters at 1615 Lexington Building, Baltimore, Md. Whit originally joined the staff of the Plymouth Electric Light and Power Company, and then he and Cordie Kohl went with the Century Electric Company. Whit taught at the Institute for a short time and served with the Union Electric Company in St. Louis before coming to the Pennsylvania company in 1924. He is married and has two daughters, Elizabeth, 14, and Miriam, 7. Whit is an ardent sailing and fishing enthusiast and doesn't do so badly at bridge, according to expert Dolph Denbin of the Baltimore Transit Company. Whit is President of the M.I.T. Association of Baltimore.

Members of the Class had an enjoyable time reminiscing with Frank Gage 22, who sat with us at a recent Newark, N.J., meeting. Time has dealt lightly with Frank, and the hands that tickled the ivories and the lungs that doubled in brass, separately and simultaneously, have lost nothing with the passing of years. Those present, all from VI, VI-A, and X, were the following: Max Burckett, Chink Chatham, George Chutter, Cac Clarke, Pip Coffin, Munnie Hawes, Sumner Hayward, Fred Kowarsky, Joe Wenick, and

Ralph Wetsten.

Mark L. Ireland, a colonel in the Quartermaster Corps, First Corps Area, and known in military circles for maintenance of the Army's motor transport in France, is to retire. Awarded the Distinguished Service Medal and the French decoration of Officier d'académie and recalled to France in 1919 at General Pershing's request, Colonel Ireland has a background of scholarship and research in military science and a fellowship in the American Association for the Advancement of Science. He has four sons and a son-in-law in the present war. The oldest is a reserve officer; the second son is a captain and airplane pilot in the Marine Corps who is finishing a graduate course at the Institute; the third son is an antiaircraft artillery lieutenant; and the youngest is a midshipman at Annapolis. The son-in-law is captain of a tank unit. Colonel Ireland has been with the Army more than 40 years, entering service after graduation from Michigan Agricultural College in 1901. He has served with infantry, ordnance, coast artillery, and quartermaster units. He is a graduate of the Command and General Staff School, holds a master's degree from Technology and has a doctorate from the University of Michigan.

Robert F. Miller, XV, has announced the arrival of Helen Josephine, Jr., on January 20. The Millers have three other children — Margaret Ann, seven, Robert F., Jr., five, and Elizabeth Marie, four. Bob is busy as usual on his movie hobby, and we venture that there have been

many extra reels taken recently around 2426 East Erie Avenue, Lorain, Ohio. Bob says that the editing of our twentieth reunion pictures has been completed, and he has sent Ray a lot of Kodachrome transparencies. The movies are in color, too, and include everybody who attended the party at the Griswold and just about all who went on to Boston last June.

Walter R. Vitalini, II, has taken up the serious study of applied kinetics, or more specifically, accurate bait casting, and is known around Milford, Mass., as the number one fisherman. Golfers around New London last summer admitted these studies weren't bad when applied to golf. Walt is a partner in a retail fuel business. He has two children — Benjamin, four, and Joanne, two. — Eugene S. Weil, X, is vice-president of G. S. Robins and Company, 126 Chouteau Avenue, St. Louis, Mo., distributors of industrial chemicals. Gene has two sons and a daughter and makes his home in Clayton, Mo.

Joseph A. Mahoney, X, is reported to have entered the Army with the rank of major. We are grateful to Joe for his fine support of our activities and will appreciate a word from him to bring us up to date since we journeyed back to Chicago from visiting Saint in Whiting.—Recent army promotions include: Francis J. Magee, I, from lieutenant colonel to colonel; George W. Outland, II, from captain to colonel; LeRoy M. Hersum, I, from major to lieutenant colonel; and Asher Z. Cohen, X, from captain to major. William H. Young, Jr., II, patent attorney of Paterson, N.J., is a lieutenant commander in the Navy, according to a note in the New York Herald Tribune.

Changes of address have been received for James V. Boyd, VII, 390 Union Street, Springfield, Mass.; Max R. Butter, III, 128 Warrington Street, Providence, R.I.; George W. Coffin, VI, Edgartown, Mass.; Jerome J. Collins, II, 17 Claremont Road, Scarsdale, N.Y.; John J. Collins, I, 1045 Union Street, Manchester, N.H.; Alexander E. Halberstadt, VI, 200 West 16th Street, New York, N.Y.; John R. Gallimore, I, F. A. Pease Engineering Company, Terminal Tower Building, Cleveland, Ohio; Colonel Robert E. Guthrie, I, Coast Artillery Corps, Fort Crockett, Texas; Alexander M. McMorran, II, Box 55, East Boxford, Mass.; Lieutenant Colonel Xenophon H. Price, I, Headquarters, 5th Army Corps, Camp Beauregard, La.; Lieutenant Colonel Holland L. Robb, I, Schofield Barracks, T.H.; George R. Steininger, I, 5220 Kenwood Avenue, Chicago, Ill.; Jack H. Waggoner, V, 240 Quentin Road, Newark, Ohio.

For a fund of satisfaction in knowing you've helped Tech to help win the war and to carry on its usual program at the same time, subscribe to the Alumni Fund now. Top your contribution off with a note to your Secretaries. — RAYMOND A. ST. LAURENT, Secretary, Rogers Paper Manufacturing Company, Manchester, Conn. Carole A. Clarke, Assistant Secretary, International Telephone and Radio Manufacturing Corporation, 67 Broad Street, New York, N.Y.

1922

This is your last warning that our 20year reunion officially begins after lunch on Friday, June 5, and ends Sunday afternoon, June 7. The place is the Sheldon House, Pine Orchard, Conn. If through some fortunate circumstance you find yourself able to attend even though you have previously signified your inability to do so, don't worry. Just wire us when you expect to arrive, and come ahead. If you get there before the telegram does, we shall still be able to take care of you, and you are assured of a big reception whether you come for the whole week end or just for the banquet Saturday night. Costs have been prorated for the shorter period. By April at least 100 classmates had indicated that they would attend either part of the festivities or the whole reunion. All your Secretary can say is, I'll be seeing you at Pine Orchard. CLAYTON D. GROVER, Secretary, Whitehead Metal Products Company, Inc., 303 West Tenth Street, New York, N.Y. YARDLEY CHITTICK, Assistant Secretary, 77 Franklin Street, Boston, Mass.

1923

Address changes these days reveal new military ranks for men who have been in the reserves or who have gone into the services from civilian life. Prentiss B. Alger is now a lieutenant in the Naval Reserve; Harold G. Crowley is a captain in the Air Corps. There are promotions, too: John J. Breen is a major; Richard P. Ovenshine, a lieutenant colonel; Charles W. Gallaher, a lieutenant colonel; Willis R. Slaughter, a colonel. On the Navy side, Lawrence T. Haugen is a commander.

There is hardly any man in the Class who has not, to some degree, been affected by the war. George J. Leewitz of East Hampton, Conn., has spent much of the time since 1923 in Paris. On finding his address again listed in the United States, I asked him about his latest activities and was rewarded by a most interesting letter. He writes the following: ' was in Paris a good deal of the time as managing director of the firm of Markt and Company (Paris) Ltd., a subsidiary of an American corporation, Markt and Hammacher Company, exporters of American tools, hardware, and machinery. At the same time, I was in charge of their subsidiaries, with offices in Brussels and Amsterdam. As time went on my duties were further extended and in a supervisory capacity I was often asked to visit their other subsidiaries in London, Oslo, Copenhagen, Stockholm, and Zu-

"When the war broke out in Europe in September, 1939, my wife and children were over there with me. I immediately sent the children back on the Ile de France, the last steamer that sailed from France. The ship was held in port for two days before the French authorities permitted the sailing. This fact neither my wife nor I knew, but at that time the steamer Athenia was torpedoed and sunk by the Germans. You can well imagine how we felt about the safety of our family. My

wife left in March, 1940, and I followed in April, thinking that all our businesses in France, Belgium, Holland, England, Switzerland, and Sweden were operating normally. At that time, Denmark and Norway had already been invaded, but nobody expected to see Germany invade the low countries, nor could anybody foresee that France would, in case of attack, be so promptly defeated.

"On the steamship Washington, I left via Genoa, the last route left open to United States ships, which, because of the neutrality law, could not touch any other European port except Lisbon. I had planned to stay in the United States several months at the head office of the company and then return to Europe again to visit our subsidiaries. However, since the Germans entered France in May, 1940, I never did get back. Instead, I remained in New York, worked to salvage and recuperate about 40 shipments which we had swimming to European ports, and then, since our activities on the European market became limited to England, Sweden, and occasionally Switzerland, I became especially interested in the Latin-American department of our firm.

"I became president of the company on January 16, 1941, and two days later left Miami by plane for South America. I traveled for three months, visited every country of South America outside of Paraguay, strengthened our organizations, reorganized our subsidiaries, and carefully weeded out any agent or employee or connection of any kind even suspected of anti-American bias. This was in February and March, 1941, long before the United States was involved in the war. I did not want to have in our organization anyone whom I could not absolutely trust.

"I came back to New York in April. The results of my trip were so encouraging that in the fall I again flew to South America, visited all countries, and of course got much more business than we could possibly handle because of restrictions, priorities, and so forth. When the war broke out between the United States and Japan and Germany, I was in Venezuela. As you can imagine, getting airplane passage back to the United States was difficult because of the new rush caused by the war situation and because Christmas was so near that every American who could get a holiday was trying to get back home, even for a short time.

The Secretary is indebted to O. B. Denison'11, for sending the following from the Worcester, Mass., *Telegram* of April 2, thus providing a local-boy-makes-good story.

"Walter F. Munford, 41-year-old

"Walter F. Munford, 41-year-old Worcester native, was yesterday named manager of operations of Worcester District, American Steel & Wire Co. . . . Mr. Munford will come here early next week to take over his new duties. He has been assistant manager of operations for American Steel in the Pittsburgh, Pa., district since December, 1939.

"He returns as top man in the district where he began as die reamer — his first gainful employment — in the North UNE, 1942

1923 Continued

Works in the Summer of 1919. . . . Born in the family house on William street, only child of Ferdinand C. and Ida May (Michener) Munford, the new operations chief attended Dix Street School, was graduated from North High School in 1918, studied at Worcester Tech in the Class of 1922, and later transferred to receive his degree in mechanical engineering from the Massachusetts Institute of

Technology.

After completing college, Mr. Munford became a helper in the open hearth department of the company here. He became superintendent of the department in 1927. In 1930 he was transferred to Cleveland and was named superintendent of the open hearth department at the company's Newburgh Works there. In 1933, when that division was dismantled, he was transferred to the National Tube Co. at Lorain, O., as assistant superintendent of the steel works. In 1934 he returned to the Cuyahoga Works of American Steel at Cleveland, and in 1937 was named superintendent of that plant. After serving for a period as assistant to the vice-president of the company in 1939, he went to Pittsburgh as assistant manager. Mr. Munford married an Arkansas girl. They have two children -Robert, 16, and Walter, Jr., 12.

I regret to have to report two deaths: David P. Field of West Somerville, on August 7; and Chester Hartley of Belmont, in Philadelphia, on April 6. -HORATIO L. BOND, Secretary, 457 Washington Street, Braintree, Mass. John M. Keck, Assistant Secretary, 207 Bloomfield

Avenue, Bloomfield, N.J.

1924

War demands are making further inroads on the civilian pursuits of members of the Class. Recent changes are as follows: Perry Maynard, formerly district traffic superintendent of the American Telephone and Telegraph Company in Cleveland, is now a major in the Army and lives at 1400 New Hampshire Avenue, Washington, D.C.; Allen Lloyd is a lieutenant commander in the Navy's Medical Corps, and is living at 1024 Naval Avenue, Portsmouth, Va.; also in Virginia is Charlie Reed, serving as a lieutenant colonel in the ordnance office at Fort Story, Va.

Greg Shea, a recent visitor in Boston, had in April just finished the job of planning and procurement for a string of air bases across Africa for the Pan American Airways System. He was in the market for another tough assignment which would combine both interest and contribution to the war effort. - Jack Stanton, after a long period as civilian engineer for the Quartermaster Corps in Boston, has been located in Washington on a similar job for the Corps of Engi-

neers.

From Charlie Locke'96, Alumni Secretary, we received the following news: Ray Meade is now with E. I. duPont de Nemours and Company in Birmingham, Ala., and is able once more to live in his own home in Ensley Highlands. He came back to Birmingham last spring for the

construction of a new DuPont powder plant, and in December became materials engineer in the maintenance department. Prior to his return to Birmingham, he had been on the Camp Blanding construction job for a year. Despite the difficulties of his work, Ray lived comfortably, for he found a nice little hotel not far away, where the food was ex-cellent. The little lakes surrounding it were full of black bass, which occupied his entire attention on Sundays. His son, after three years of high school work in Birmingham, won a scholarship to the Gulf Coast Military Academy at Gulfport, Miss. As a side line, Ray is teaching construction engineering at night at the Birmingham-Southern College for the defense program and reports that he likes teaching very much.

Others of our classmates who are in the military service are Francis Rosseau, a major in the Army Air Forces, now stationed at Dale Mabry Field, Tallahassee, Fla., as base engineering officer; and Chester Jones, a lieutenant in the Signal Corps at Daniel Field, Augusta, Ga.

John Gegan, formerly a commercial engineer at Providence, R.I., for the New England Telephone and Telegraph Company, is now Major Gegan. He spent several months as adjutant at Fort Adams, R.I., took a short course in Washington, and is now in Philadelphia. Malcolm Finley has left Chicago and is now in San Francisco. The Secretary's recollection is that Dr. Finley is a child psychologist of considerable note. Francis A. Barrett, General Secretary, 50 Oliver Street, Boston, Mass.

1925

The following paragraphs are quoted from an April release of the "College Press Service" of the General Electric Company, Schenectady, N.Y. "Twelve employees of the International General Electric Company in the Far East have not been heard from since December and are now believed prisoners of the Japanese.

"Six of the group are listed by High Commissioner Francis B. Sayre of the Philippines as being interned in Manila. ... Listed as prisoners in Manila are ... F. M. Corliss ['25, VI] also his wife and daughter ... G. R. Law [possibly Granville Raymond Law'19, IV].... The men are employees of the General

Electric Co. (P.I.), Inc.

"Mr. Corliss is a native of Brighton, Mass., and went to Manila as a refrigerator specialist in 1939 and earlier worked on refrigeration in Schenectady, Cleveland, and New York, and in South Africa." - I wish some representative of the Class of '19, or of the General Electric Company, would more clearly identify Mr. Law. It seems unlikely that a IV man would be working for the General Electric Company in Manila, but these Tech men do get around.

The following is from the New York Sun of March 23: "Mrs. F. C. H. Ungar of Edgewood, Katonah, New York, and 1 University Place [New York City] has announced the marriage on Saturday in

the Marble Collegiate Church of her daughter, Miss Margaret Van Rensselaer Ungar, to Major Edward Hartwell Mitcham [VI], son of Mrs. Orin B. Mitcham and the late Col. Mitcham. The bride, whose late father was widely known as an artist, is a granddaughter of the late Mr. and Mrs. James H. Van Rensselaer. Major Mitcham, who was graduated from Princeton and the Massachusetts Institute of Technology, is on active duty as an engineer.'

This evening occurred an instance of "Secretary's luck," which occasionally acts as a counterbalance and antidote to pessimism brought on by that affliction of Secretaries, "the noncommunicativeness of the majority." As I was passing through the North Station concourse in Boston on my way to the Elevated station, I chanced to glance into the window of the Hotel Manger Coffee Shop and saw a familiar face. I ducked into the nearest door and introduced myself to the gentleman, John E. Chrystal, V, who now lives at 137 Chambers Street, Boston. John had dropped so completely out of sight since graduation that no address was given for him in the 1940 edition of the 'Register of Former Students.'

The information I gathered from John in large degree accounts for this gap in his record. Since 1925 he has spent a great deal of time globe-trotting and traveling with his mother, who recently died at the age of 86. John told me that he has worked at a number of places as a chemist but has not stayed very long at any one of them. A short time ago he was engaged as a metallurgist by the A. S. Campbell Company, Inc., of 161

Prescott Street, East Boston.

Most of us probably remember the oc-casion when John was unfortunate enough to fall into the Charles through an opening in the planking during the reconstruction of the Harvard Bridge (nee 'Technology Xylophone'). I also recall that during the visit of the Moscow Art Theatre to Boston in the winter of 1924 he appeared briefly as a super in the play *Tsar Fyodor* in which Sandy Brown, Cuthbert Daniel, George Blonsky, and I also had similar parts. The difference was that, while Blonsky had a chance to yell in Russian as a member of the mob, the rest of us had silent parts as guards of the tsar. We wore white uniforms and carried huge wooden axes.

There have been a large number of address changes during February and March, particularly among the military and naval fraternity. Our offer to supply addresses on request still stands, in spite of the dearth of takers since its first publication. — Hollis F. Ware, General Secretary, 3 Aquavia Road, Medford, Mass. F. Leroy Foster, Assistant Secretary, Room 7-121, M.I.T., Cambridge,

Mass.

1926

Let me first run through the names of members of the Class who have not been mentioned previously as being in the armed services. Robert C. Dean is now a lieutenant colonel in the Army, along

with A. W. K. Billings, who holds the same rank at Camp Edwards, Mass. Martin E. Staley is a major in the office of the United States District Engineer at Fort Sam Houston, Texas. Lloyd M. Littlefield is a major stationed in the office of the Chief of Ordnance in Washington, D.C. Harry J. Jenkins is a captain in the Air Corps in Puerto Rico; Emerson W. Eddy, a lieutenant in Washington; LeBaron C. Colt, a captain at Langley Field, Va.; and Samuel J. Cole, a captain in Washington. Laurence G. Cumming is a lieutenant commander in the Navy, stationed at the Navy Yard in Boston. Samuel W. J. Welch is a lieutenant in the Naval Reserve, stationed at Charleston S.C.

Jay Goldberg was a recent visitor to the Institute. He is now with J. P. Stevens and Company, Inc., textile factors. He is in charge of the research laboratory, and is undertaking important work connected

with the war program.

The Class had an excellent representation at the annual Alumni Banquet in Boston on April 25. The following were there: Herbert L. Beckwith, Frederick P. Broughton, Robert T. Dawes, William W. Dunnell, Jr., Esther L. Frutkoff, Mrs. James T. Henry, Harry F. Howard, Stewart S. Perry, Chenery Salmon, George Warren Smith, Alfred P. Steensen, Flint Taylor, Richard Whiting, and the Secretary. — James R. Killian, Jr., General Secretary, Room 3–208, M.I.T., Cambridge, Mass.

1932

In the May Review, Chippy Chase outlined the plans for a number of group dinner meetings to be held on June 5. These are to take the place of our tenth reunion and will be decentralized and spread over the country in such a way that it will be possible for almost everyone in continental United States to attend one. Definite details will be sent to the members of the Class by letter. We have written to the following men to ask them to try to make arrangements for the meetings. Some of these men will be unable to take care of this, but we shall make every effort to see that the meetings are widespread, and we hope that everyone will make an effort to attend: Boston, Carroll Wilson; Chicago, Don Gilman; Cincinnati, Bernard Markstein; Cleve-land, Harry Moore; Denver, Stan Rudnick; Hartford, Thomas Rhines; Houston, Charlie Davis; Kansas City, Charlie Pierce; Los Angeles, Johnny Lyon; Memphis, Bill Wells; Minneapolis, Willis Hutchinson; New York, representative not yet determined; Oklahoma City, Tex Ingram; Providence, William Barker; St. Louis, Bob Semple; Seattle, Charlie

Martin; and Washington, Fred Moss.

In Washington recently I ran into our friend, Crawford M. Kellogg, who is now a colonel in the Chemical Warfare Service. He told me that several members of the Class are getting into the C. W. S., and he mentioned, in particular, that Johnny Crowther is interested. Apparently Johnny is in California at the present time. Colonel Kellogg told me I

ought to go back into the service, but an old back injury and subsequent spinal fusion make me physically unacceptable.

A wire from Al King stated that he had made some connection with the Monsanto Chemical Company. He promised to send further details, but these have not yet arrived. Apparently he is

being kept pretty busy.

Don Corson is settling down after his years of wandering. He told me recently that the date for his marriage was May 23. He also said that Jim Robson, who was with the Firestone Tire and Rubber Company in Akron, is now in Washington. — From the First Naval District, Boston, we received notice that Leland Burr has been sworn in as a lieutenant. He had been president of Burr Chromium Company and is now an ordnance officer.

Obie Denison'11 sent a news item from a Worcester paper about Oscar Marzke, works metallurgist at the North works, American Steel and Wire Company. Oscar has been transferred to the Waukegan, Ill., plant of the company in the same capacity. He started in the South works physical laboratory in 1933 and was named works metallurgist at the North

works in November, 1940.

It is too bad that we can't have our tenth reunion at the Institute, but of course all of us are extremely busy at present. Let's make every effort, individually, to attend one of the group meetings. As Chippy stated in his last letter, informality will be a keynote, so no preparations will have to be made. Remember the date — Friday, June 5.—CLARENCE M. CHASE, JR., General Secretary, 1207 West 7th Street, Plainfield, N.J. WILLIAM A. KIRKPATRICK, Assistant Secretary, Allied Paper Mills, Kalamazoo, Mich.

1937

Five years ago! At our New York meeting in April, the consensus was overwhelming that it is almost impossible that so much time has passed since graduation. But how could we argue with reality? Seventeen of us gathered at the Technology Club of New York to renew memories, bring the past to the present, digest the results of the class questionnaire, and chew the fat about this one and that one. In between times we managed to eat some dinner, drink some

beer, and do some singing.

Dom Cestoni, our heavyweight, held down one end of the table, and Ed Lynn, who runs Dom a close second, did mighty well on the other end. Gill Mott says there were several others present. His eagle eye picked out Rolf Schneider, our newlywed; Ed Maples, who tore himself away from a date for the meeting; Grandville Jones; Howard Marshak; Louis LaForge, one of the papas; Roy Smith, who wants to know where Fritz Neagle hangs his hat; Max Gerson, still claiming he was lucky to lose that election; Al Faatz, ably supporting my left flank; Bert Bennison, an M.D. just finishing his internship at the United States Marine Hospital on Staten Island; John Everett, who took top honors for miles

covered, having come from Philadelphia; Dan Hanlon, in there pitching as usual; Al Haskell, wondering about Dave Hill; and David Fulton, the agitator for annual meetings like this one. That sounds like a good idea, so next year we'll see what can be done.

At 9:30 P.M. we drank a toast to the Class and to the Institute. We read Prexy McLellan's telegram: "Reunion greetings to members of '37. Although not having one central meeting, we have collected 200 members in Boston, New York, Washington, Chicago, and Los Angeles. It's a record. Here's to 1937 at 9 p.m., April 25." Two letters were read to the fellows. The first was Walt Blake's report from Aberdeen Proving Ground: "I see you have picked up a new and capable acolyte, Phil Peters. I haven't seen Phil, Bill McCune, and other associates for months now. My trips to Boston are much less frequent in these hurried times. Perhaps you heard that lack Robbins was married in January to Betsy Triplett. Jack is a captain now. Ice Berg, the muscle man, is our automotive expert here at Aberdeen. He is also a captain. Ice and his wife and two children have a local monopoly on transportation. They own two cars, two bicycles, two motorcycles, and two motor scooters. Harry Goodwin is at the training center of the Proving Ground, in charge of an ordnance maintenance company. Harry carries on much the same as always. Norm Birch, who is now at Watertown Arsenal, stopped here to see me a month or so ago. He was seeking advice on his impending call to the colors. I see John Gander every so often at the club dances. He has not changed — still single and a charmer. Bud Herbig was married on April 4 in New York. Bud will live in Washington, where he is on active duty in the office of the chief of the Signal Corps. Cleon Dodge called the other night during a hurried trip south. I didn't see him, but Jack Robbins reported he is still the Cleon of yore. Reunion plans for me were not possible, for time is at a premium. We shall make up for our loss at our tenth."

Ezriel Post, who is with the 260th Quartermaster Battalion, at Camp Pendleton, Va., wrote: "I volunteered for the Army and am now doing my best not to cry over spilt milk in not having taken R.O.T.C. back at the Institute. However, I hope to make the next officers candidate class at Fort Belvoir and hope to meet some of the '37 boys who are stationed there. In the meantime, I'm holding down the sergeant major's job at the headquarters. I heard from Charlie Antoni, I, recently. He had the tragic experience of losing his wife two weeks after the birth of their daughter."

Phil Peters has sent in the statistics gathered from the recent questionnaire. Phil said: "The entire Class has shown a great deal of interest in both the general and the confidential questionnaire. The reunion committee has been able to tabulate the answers, with Pete Reitz doing a lion's share of the work. The results look like interesting dope, and we think

it would be a good idea to continue this sort of questionnaire quinquennially in the future."

Of some 600 questionnaires sent to members of the Class, approximately 200 were returned filled in. The following results were compiled from those returned. The following records are based on the 200 returned and do not necessarily hold

for the entire Class.

The average age is 27 years, 5 months. The oldest is Phil Jacobs, Newtonville, Mass., who is 33 years, 6 months; the youngest is Gill Mott, Bridgeport, Conn., 25 years, 3 months old. Sixty-three per cent of the Class are married. The average length of married life is 2.62 years. Those married the longest are: Nancy Klock, Manchester, Conn., 6 years; W. Gardner Barker, Chestnut Hill, Mass., 7 years; and A. R. Graustein, Arlington, Mass., 7 years. Three classmates reported divorces. Forty-three per cent of those married have children. Ten per cent of those married have two children. The average age of the first child is 1 year, 7 months; the average for the second is 7 months. W. Gardner Barker takes top honors for the number of children.

The average height is 5 feet, 10.2 inches. The tallest is Larry Steinhardt, Cambridge, 6 feet, 4.5 inches; while the shortest is Louis Pepperberg, Chicago, 5 feet, 3 inches. The average weight is 161 pounds. The heavyweight is Dominic Cestoni, Fanwood, N.J., who weighs 215 pounds. The lightweight is David Gundry, Elmira, N.Y., 107 pounds. The average gain in weight is 7 pounds. Those advancing the most are Dunny Cohen, Boston; Eddy Lynn, Greenwich, Conn.; Al Schroeder, Feasterville, Pa.; and Bob Washburn, Cincinnati. Each of these boys gained 40 pounds. Hugh Smith, Jr., Upper Darby, Pa., shrank the most—

35 pounds.

The average waistline is 32.085 inches. For pencillike waistlines, the coeds come in first, with Margaret Mace, Washington, reporting 23 inches, and Reina Hutner, Boston, 23.5 inches. Bill Sangster, Burbank, Calif., comes in a close third with a 25.5 measure. Hugh Smith takes top honors, we think, for the biggest diameter — 41 inches, while Philip Short, Mattapan, Mass., won't commit himself. He just says, "too many inches."

Of those queried, 67.3 per cent still have all their hair, while 31.1 per cent are partly bald, if they are really telling the truth. Only 1.6 per cent claim to be totally bald. Those committing themselves to this distinguished honor are Alva Sapp, Rahway, N.J., and Ehrl

Wagner, Snyder, N.Y.

The percentages in the various types of occupations are: Army, 11; Navy, 3; other government jobs, 3; teaching, M. I. T., 4; teaching, other schools, 3; other civilian jobs, 76. There are 73 per cent working in total defense work; 16 per cent who are partly in defense work; 9 per cent not working in defense work; and 2 per cent who don't know or do not care to say. Those working in the same field as their major are 68.2 per cent; those partly in the field for which they pre-

pared, 9.6 per cent. Twenty and sixtenths per cent are not in the same field, and 1.6 per cent did not answer.

Sixty and three-tenths per cent smoke, 7.4 per cent smoke occasionally, 26.5 per cent do not smoke, and 5.8 per cent did not choose to say. As for drinking, 67.8 per cent definitely do, 7.4 per cent can take it or leave it, 18 per cent do not drink, and 6.8 would rather not say.

Those who like their present work number 84.7 per cent, while 6.3 per cent like their work mildly, 5.3 abhor their work or any work, and 3.7 ignored the question, probably in fear that their employers would see the answer. Twenty-one and seven-tenths per cent said they go to church regularly, while 5.3 per cent do not go regularly, and 73 per cent

do not go at all.

Eighty-eight per cent have their own automobiles. The average car is a 1939 model. Two classmates are the proud possessors of two cars: Sherman Rose, Los Angeles, Calif., who owns a 1940 and a 1931 model; and Quentin Berg, Havre de Grace, Md., who has a 1936 and a 1935 model. The oldest models possessed are from 1931. They are owned by Sherman Rose, Richard Bennett of Baltimore, and Daniel Tower of Fitchburg, Mass.

The census of political parties is as follows: Republicans, 51 per cent; Democrats, 17 per cent; Socialists, 1 per cent; no party, 20 per cent; and don't know, 11 per cent. Twenty-four per cent of those queried have changed their political views since graduation. Of these, 10.5 per cent have become more radical in their views, while 13.5 per cent have become less radical. Sixty-seven per cent have not changed their political views, and 9 per cent do not know or do not have any views.

A majority, 60 per cent, would send their sons to Tech without any reservations, and 23 per cent would send their sons to Tech if they ever had a son, if they had enough money, if he wanted to go to the Institute, and if he were capable of going there. Nine per cent would not send their sons to Technology, and 8 per cent were either in doubt or did not

The percentages of draft classifications were as follows: I-A, 1.5; I-B, 0.5; I-C, 13.5; II-A, 6.0; II-B, 18.7; III, 41.5; IV-F, 4.0; reserve pool, 11.6; coeds, 1.5; unclas-

sified, 1.2

The average number of friends that the fellows have kept in touch with since M.I.T. days is 6.5, ranging from none to 50. Sixty per cent belong to at least one professional society, while 40 per cent do not. Of the 200 replies, 78 promised to write an annual letter for the class notes, and 35 thought they might. Fifty-four said they gave their wives flowers, 31 said they did this only occasionally, 36 did not give flowers, and the remainder preferred not to answer.

The average sleep per night is 7 hours. The average sleep we should like to get is 10 hours. Those getting the least amount of sleep are: Ed Herbig, Washington, 5 hours; Robert Rudy, New York, 5 hours; William Tucker, lieutenant,

in the Navy, 5 hours; and John Simpson, Muncie, Ind., 4-6 hours. Bob Adler in Fresno, Calif., gets all of 10 hours sleep per night, which is a high for the Class.

In answer to the question, "What is the most important thing you've done since leaving Technology?" we learned that many important things have been achieved by classmates, ranging all the way from getting married (60), having babies (12), and working (13), to going to Harvard (2). A. W. Chandler non-chalantly said that he "built a couple of dams," while Robert Ritchings said he "invented the steamboat, the cotton gin, the sewing machine, and the telegraph; disproved the first and second laws of thermodynamics; and perfected a perpetual motion machine." We also learned that as his most important achievement, Joe Heal, of Los Angeles, built a house in Chicago, and he has been trying to get rid of it for a year and a half. Any takers?

The results of the confidential questionnaire showed that the average salary is \$3,200 per year. Salaries ranged from \$400 to \$8,200 per year. The average life insurance policy is \$7,850. Policies ranged from none to \$40,000. The average value for homes owned by classmates is \$6,400. Values for homes ranged from \$3,000 to \$11,000. About 10 per cent of the Class own their own homes.

The average net worth per person is \$10,100. The individual net worths ranged from \$1,100 in the red to \$250,000 to the good. The average income tax paid for 1941 is \$162. The individual income tax returns ranged from none to \$2,707. The average salary anticipated 5 years from now is \$5,400. The anticipated salaries range from \$800 to \$25,000. — Winthrop A. Johns, General Secretary, Route 1, Bellemead, N.J. Philip H. Peters, Assistant Secretary, 10 Babson Park Avenue, Wellesley Hills, Mass.

1938

The Stein-on-the-Table Banquet on Alumni Day on April 25 brought several of the old gang together. Dick Vincens, who was recently married, came in from Springfield. He is with the United American Bosch Corporation. Bill Preece took his one night a week off to come up from New Bedford. He is in the chemical control laboratory of Revere Copper and Brass, Inc.

Tony Chmielewski also joined the crowd, after four years of silence. He is still living in Cambridge and is working in the production planning division at Boston Woven Hose and Rubber Company. Frank Kearny was also at the dinner. He is in the naval supply training course at the Harvard Business School and expects to be around these parts until the end of July, plus or minus. Al Schorsch is also training at Harvard, we understand.

Eben O'Brien and Frank Atwater were at the banquet. Eben is traveling around the country doing construction work for Stone and Webster. Frank came in on the fast freight from New Britain, Conn. He is with Fafnir Ball Bearing Company

and has recently collaborated on a new book, entitled *Production Control*.

Rounding out the table were the following: Fred Kolb, still working on his doctor's thesis; Al Wilson, still fabricating steel shapes; and your Assistant Secretary, still hanging on. A gay time, need

we say?

Phil Sellers dropped into the office recently. He is now in New Jersey, after his stay in Atlanta, Ga. Phil is working on quality control and development on bearings with the Wright Aeronautical Corporation. He recently announced his engagement to the little girl next door. Jack Wilson, Corps of Engineers, has been laid up for some time at Fort Devens and is now convalescing at home in Boston. Bob Johnson is still in Boston but is now located in the Boston Ordnance District office. Doc Thompson is in Philadelphia with the Liberty Mutual Insurance Company, waiting to be called. John Glacken is with the Lockheed Aircraft Corporation on the West Coast. -DALE F. MORGAN, General Secretary, 142 Woodland Avenue, New Rochelle, N.Y. RICHARD MUTHER, Assistant Secretary, Room 1-180, M. I. T., Cambridge, Mass.

1939

We are grateful to Bob Pratt for his newsy letter, which follows: "Judging by the '39 notes in the December, January, and February issues of The Review, you may be in need of some news. To bring myself up to date, here is the picture. After completing a year of graduate study at the Institute, I entered the employ of Pratt and Whitney Aircraft in East Hartford as an experimental test engineer on vibration, stress, and associated measurements and instrumentation. On October 5, 1940, Parmys Goodale of South Weymouth, Mass., a Simmons graduate, became my wife. January 17, 1942, brought the birth of our son, Alan Goodale Pratt.

"Some news of our Class has reached me in scattered letters. Wally Hudson, XVI, was employed by an aircraft concern in Colorado Springs until the end of last year. He then went on active duty with the Air Service Command, Hill Field, Ogden, Utah. He is an assistant depot engineering officer. Warren Goddard, II-A, is with the supercharger engineering department of the General Electric Company at the River works, Lynn, Mass. Richard Christie, II-A, is working on aircraft magnetos for G.E. in Schenectady. He was at our plant observing tests of one of their magnetos on our engines.

"John Crankshaw, II-A, is at the Aberdeen Proving Ground. His address is Box 133, Havre de Grace, Md. Fred Cooke is with Corps of Engineers in Iceland. Wesley Kuhrt, XVI, is now in the research department at Pratt and Whitney Aircraft. Ben Howes is an experimental test engineer at P. and W. and is specializing on air-flow and cooling problems."

Peter Bernays, another Course V man, "noting with pain" the recent emptiness, wrote the following: "Joe Zallen reported at Christmas that he was no longer at Camp Edwards but is now in the medical laboratory of the First Corps Area. Ernie Kaswell got his master's degree from the Institute in June. Smith was married just after my news letter made its appearance. Hew Fletcher has been working on the Moore Fellowship this school year.

'James Schulman has been working for Dr. von Hippel at the Institute and just recently reported that Rittner, Donovan, and Ruthie Berman are also working for him. Norma Schulman arrived on October 27. Mel Falkof is a lieutenant at Edgewood Arsenal in the technical division. He wrote that he was very busy working seven days a week and attending classes two nights, in addition.

"Pete Bernays is working on a national defense research project at Illinois. He gets his Ph.D. in June, as well as a commission in the Chemical Warfare Service. Then he expects to go on active duty."

From Charles E Locke'96, Alumni Secretary, we received the following information: "A long and newsy letter dated November 11 was received early in December from A. H. Chestnut, a lieutenant, from Clark Field, Fort Stotsenburg, Pampanga, P.I. Chestnut was a mining engineer with a big copper operation of the Phelps Dodge Corporation at Morenci, Ariz., thus gaining fine and varied experience. Last April he was called into the Army at El Paso, and for some time was stationed at a camp in Texas. In September, he sailed for the Philippines where he went as a member of the Coast Artillery. He was transferred to the Air Corps as a member of the ground administration staff. When he wrote, he was doing work as a supply officer and adjutant.

Allen Monderer, a lieutenant, wrote from the Department Signal Office, Quarry Heights, Canal Zone: "I know that I have been extremely negligent in keeping up my correspondence with the Class Secretary, but you know how those things are. After leaving Technology almost three years ago, I finally wound up in my home in Chicago and proceeded (so I thought) to set the radio engineering world on fire. The firemen soon arrived and extinguished the flames, and our hero was on the rolls of the unemployed for several months. That ended when I obtained work with a small company specializing in entire highfrequency communications systems. My job was as their receiver-design engineer. Believe me, there is plenty about engineering that one can't learn in any school, even Technology, and I had to learn it in

a big hurry.

"My specialized knowledge from the Institute has proved invaluable, and it is far beyond that received by the graduates of the four-year engineering courses of most other schools. I have found the biggest factor has been the generalized methods of attacking any circuit problem, leaving the special cases until the end, instead of the usual system of teaching a lot of cases and not the generalized case.

"The end of September, 1940, found me in uniform, on duty with the Eighth Signal Company at Fort Jackson, S.C. After several months there, I was transferred to the home of the Signal Corps, Fort Monmouth, N.J., where I did every manner of thing except the one job I had originally prepared for — radio. While I was at Monmouth, a local Tech club was organized, with the co-operation of Ed Snow '36. Transfers and the like prevented a stable type of organization, but getting together with other Tech men once a month was both interesting and beneficial.

"One week after the war began, I packed and took a plane to Panama. See any guidebook for a description of the beauties of the tropics. Suffice to say, I am now extremely busy as one of the numerous assistant department signal officers with charge of a number of radio construction projects. I do technical design and give advice. The worst drawback, outside of the problem of having to obtain all our material from the States, is the lack of a decent technical library, and, having been out of the field over a year, I could make good use of one."

Richard V. Gaines left New York in December for northern Africa, where he is a technical sergeant of the United States Military North African Mission. He may be addressed in care of the United States Legation in Cairo, Egypt.

Andrew Rebori, a lieutenant, married Barbara Willson; Herbert Haines was married to Edna Nickerson last December; Mary McClintock was the bride of Bob Wooster; and in February John Beaujean married Barbara Williamson.

We have received a letter from Al Rugo, who said: "I'm amazed to find myself penning a few words to you about my doings since I left the Alma Mater. It's against my abnormally lazy inclinations, but I've always enjoyed reading about the boys in The Review, and it's time I

did a little contributing. 'The big event of my life has already taken place. Eleanor McNulty and I were married in West Roxbury, Mass., last November 2. Two days later, on the evening of our departure for Philadelphia where I am employed as a static test engineer at the Naval Aircraft Factory, we met Bob Wooster at the Copley Plaza Hotel. He had just received a commission in the Air Corps and was on his way south for duty. My work includes the development of static testing technique as well as the actual testing of airplanes, parts, and plastic materials being considered as replacements for our limited supply of aluminum. I can't think of another job that I should enjoy more.

"I recently chatted with Ed Skralskis, who is employed as a stress analyst in the growing airplane division of the Edward G. Budd Manufacturing Company. He claims that Don Scully rushed through four positions in two years, including the superintendence of airfield construction in Puerto Rico. Later he accepted a Navy commission, which brought him back to Technology for additional study."—
STUART PAIGE, General Secretary, Box 207, Greenwich, Conn. Robert C. Casselman, Assistant Secretary, 271 Cypress Street, Newton Center, Mass.

1940

Here is news about Hap which all of you fellows should soak up with interest. The letter was written to Bob Godfrey on December 29. Hap said: "Many times I have started to write to you. Even before the war, I started, but it seems that each time something interferes with the sending or completing of the letter

'You see, I've been in the field ever since coming to the islands - no com-fortable desk or chair. At first I had a tent, a small tent, but no more of that. Everything is fine so far for myself and local group, but outside of that I don't know a thing. We've moved around a bit, of course, doing odd jobs. All I want to know is when are you coming over? Send my regards to the boys. Write to H. G. Wright, Tom, Ed, Frank, and all, sending my love. Hope some day we may meet. W. H. Farrell, a lieutenant, is at headquarters in the Philippine department of the Army. Your Class President surely needs all the luck we can wish him and perhaps a few prayers as well.

Tom Creamer wrote a letter in which he said: "I think Ed Seim is in Ireland, from what Bob said a couple of weeks ago when I saw him here in Boston. The Institute is going full blast with several new buildings added and the old gym taken down. You'd hardly recognize the back

of the place now.

"I think I wrote you that John Danforth is now a technical aid for Dr. Compton on the work of the National Defense Research Committee. Bill Woodward and Dick Dunlap are both working on research work here, and Ray Keyes is still at the Institute in the Department of Naval Architecture. I saw Val de Olloqui a little while ago. He is now located in the Boston Navy Yard, working on ship repair. Chappie Halstead, whom I saw at Christmastime, is the naval officer in charge of work for the Navy at Brown Shipbuilding in Houston, Texas." Tom is doing a real job up there for all of us, and he needs 100 per cent help from all of '40 in the Alumni Fund campaign. If you haven't taken time to fill in your contribution blank, do so now, as you can be sure there is good work being done at Technology.

C. W. Freeman, an ensign, has been assigned to duties with an engineering corps. J. H. Boulger, Jr., an ensign, has been assigned to aviation duties, doing aerial map interpretation. M. C. Allen, also an ensign, has been assigned to engineering duties. Bob Godfrey is in the Pine Bluff Arsenal, Ark., doing production work on incendiary equipment. He says it is O.K., but he would prefer to be overseas. Joe Knight is supply sergeant in a tank company with headquarters at Pine Camp, N.Y. Jim Gilman resigned his position with the Naugatuck Chemical Company in February and became a junior engineer with the chemical engineering department of the Tennessee Valley Authority. In June, 1941, he was married to Evelyn E. Taylor and they are now living in Florence, Ala. Jim says he expects to be called to active duty before

long. Mr. and Mrs. Kather are leaving the sunny south to return to Edgewood Arsenal, Md., where Bill will enter the officers candidate school of the Chemical

Warfare Service.

Rowland Peak writes that he is very much out of touch with the members of the Class. He says that none of us ever get to New Orleans, but if we should he'll gladly buy the beverages for any who will call him at the Union Station there. Let's bankrupt him, gang. He is with the Illinois Central Railroad. Rowland further writes: "I last heard from Wink Read in January, and he was still sweating away with a Panama railroad and risking his life by rooming with a Harvard man." Send me some news, gang. Next month is the last issue of The Review you'll get before fall. — H. GARRETT WRIGHT, General Secretary, 44 Main Street, Hilton Village, Va. Thomas F. Creamer, Assistant Secretary, Room 3-208, M.I.T., Cambridge, Mass.

1941

Things have picked up this month and the news is much more plentiful. That does not mean that all you men who have your pen in hand should put it away on the post-office counter and postpone that long-overdue letter another six months. We are still waiting to hear from quite a few '41 men who have sunk into obscurity. What with the new free mail allowed all you service men, the letters should be pouring in. And while you are in that mailing mood, remember that that boy Folberth is back again for a good cause, the Alumni Fund. Your own living expenses are not the only ones that go up during war; Tech's expenses rise pro-portionally. Considering the role which the Institute is taking in war research activities, the reason for picking up the old checkbook is all the more important. We may kid about Folberth's powers of collection, held over from budget committee work, but he really is doing a bang-up job for a good cause.

In the press we read that Mariedora Thompson became the bride of Parkman Moore, a lieutenant in the Navy. Frances Spong and Albert A. Frink were wed in Arlington, Mass., while Constance Fern Storm was married to Herbert Hultgren in Arlington, Mass. Mora Jane Somers is engaged to Edward Winslow, who is now an ensign. Jean Anger was wed to William Shepard, a lieutenant, in the chapel at Fort Ord, Calif., and Genevieve Johnson was wed to Arthur A. Hauser, Jr., who is studying for his doctorate at the Institute. Robert Montana, an ensign, has left for the naval base at San Diego,

Calif.

A short while ago we had the good fortune of spending a week in Washington. Just missed out on a meeting of the Washington Society of the M.I.T., but managed to see quite a few of the boys stationed at the capital. Charlie Whitney, the first man we knew of to get his silver bar in the Class, is still at the office of the Quartermaster General in the marine transportation section. One of our cellmates at the Officers Club of Washington was Major Maynard'24 of the Signal Corps. He had some tall ones to tell about

the factory on the Charles.

Bill Shyne has long since moved from the District of Columbia to New York City. I spent a night at the gym with Whitney and Johnny Wheeler, who works down at the naval research laboratories. Johnny had a lot to say about the '41 men running around loose in town. Duke Guething, Affel, Vandervoort, and Wade are all carrying on the Cambridge tradition in or out of uniform. Didn't get to see them personally, but at the same time roommate Weedon, unbeknown to us, was visiting the lads out in Arlington. Sam Fry popped up and joined us for a beer before we headed back for the City of Brotherly Love. Sam is now engaged to Elizabeth Clark of Portland, Ore. Charlie Corliss, Milt Sanders, Connie Nelson, and Ray Koch are all in Washington. Corliss and Sanders are at the navy labs, along with Fry, and Koch is with the Ordnance Department.

Les Corsa wrote that he is still at Lederle Laboratories, Inc., and spoke of spending a week end up in Cambridge with George Clark, who by the way now has those silver bars. Les said: "Norm Shapira called me up some time ago from two towns north of here, where he was a week-end guest. It was mighty good to hear from him. He seems to be getting along well at Edgewood Arsenal. He said nothing about going into the field. Sid Hall located Knut Johnsen at 33 School Street, Gibbstown, N.J., and my first letter down there brought back news that Ragnhild Gertrude Johnsen, six pounds, two ounces, had arrived to Gertrude and Knut on March 15. Knut is with DuPont's high explosive department, but has been and expects to be transferred anywhere.

Les Gott wrote from his station up in Watervliet, N.Y., where is he quite busy in ordnance work along the Course III lines, lucky fellow: "Wife Alice is a busy Redcrosser." — Must definitely announce the marriage of ex-roommate Boris Miller to June Scholnick of Brookline. The couple is living in Chicago where Lieutenant Miller, contrary to previous report, is stationed at the subsistence labs of ye Quartermaster Corps. Being a roommate to the Philadelphia half of this column has proved fatal to three out of three Tech men, matrimonially speaking, so beware, Weedon!

Another Course X man, Bill Cadogan, wrote in two pages full of news: "The situation on ordnance officers became so acute that it was impossible for me to finish working for a master's degree. I missed it by nine weeks. I reported here [Aberdeen Proving Ground] March 24. Walt Keith, who was taking the same course reported here on April 1

'As you indicated in your last letter, the field service is the order of the day for young officers, and I expect such an assignment presently. Seriously though, although I dislike losing contact with good old Chemical Engineering, I'm anxious to pitch in and do my share, and I expect to enjoy it a great deal. Apparently most of the boys feel that way, too.

"Enough of that stuff, old man. I must pitch in and supply news, hoping it is not too old. Guess the big news event was Will Mott's wedding to Charlotte Douglass. Johnny Sexton and Charlie King were ushers. Charlie is with the Chemical Warfare Service Development Laboratory at the Institute. Johnny swears he has the best job in the Army in that Hartford Ordnance District. Also at the C.W.S. lab is Bob Coombs, doing ordnance work. Charlie Wales who was at Fort Benning, Ga., is now at school at Edgewood Arsenal. Talked to him over the phone last night. He is doing very well.

"Here at Aberdeen my quarters are right next to Mario Conti, who is in charge of ammunition storage. Down the road a bit is Bill Kussmaul, who is a lieutenant on troop duty. Hank Avery and Ray Harper are stationed at the Ordnance Training Center and are pushing out and revising texts for use in the Ordnance School. It's been great to see all these guys again; they're all doing first-rate. At Will's wedding in March, Frank Lang-

hammer was on the ball. He is located with the Bell Telephone Company laboratories in New Jersey. John Meier is at Springfield Armory. Johnny Waller was up from Providence, where he is working for the Brown and Sharpe Manufacturing Company.

"Jim Gordon and Johnny Waller came up to do the dorm dinner dance with me. Zack Abuza came over and told us that he is running the Boston District Ordnance. — At the junior prom, which was extremely successful, old Sandy Glick was gliding around. He likes his job with the Monsanto Chemical Company, in Springfield. Bill Folberth was there also, but I didn't get the chance to talk to him. My address at 38 Ronald Road, Arlington, Mass., is probably the most stable."

A letter told us that George Hite is still radiating in the buildings behind the Institute. The old Hangar Gymn has finally been torn down. We buried the darn thing once, didn't we? Oscar Hedlund wrote us a swell long letter about this year's track prospects. What about the freshman

who does a mile in 4:35, and that record relay team of Meny, Stewart, Brady, and Hall doing the mile in 3:25? Good going. Makes us a bit homesick.

A letter from Camille Kosztyla let us in on some information about some of these people who won't, or can't, write. He and Roger Blum are ensigns at the Brooklyn Navy Yard, working as assistant hull superintendents in the Navy's construction work. He says Kriz may be in Australia. Seems as if Jack, even as a civilian, is keeping pretty much in the thick of things. Camille suggests paging Mal Dodd, Guy Slaughter, and Frank Langhammer. This sounds like a good idea. How about some news from you guys? The traditional Stein-on-the-Table

The traditional Stein-on-the-Table Alumni Banquet saw the return of about half a dozen '41 men, besides the overflow of II-A and VI-A boys, who all got free tickets. — STANLEY BACKER, General Secretary, 46 Bicknell Street, Dorchester, Mass. WILLIAM R. AHRENDT, Assistant Secretary, The Graduate House, M.I.T., Cambridge, Mass.

When Good Fellows Get Together

Tech Alumni Night at the Pops

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